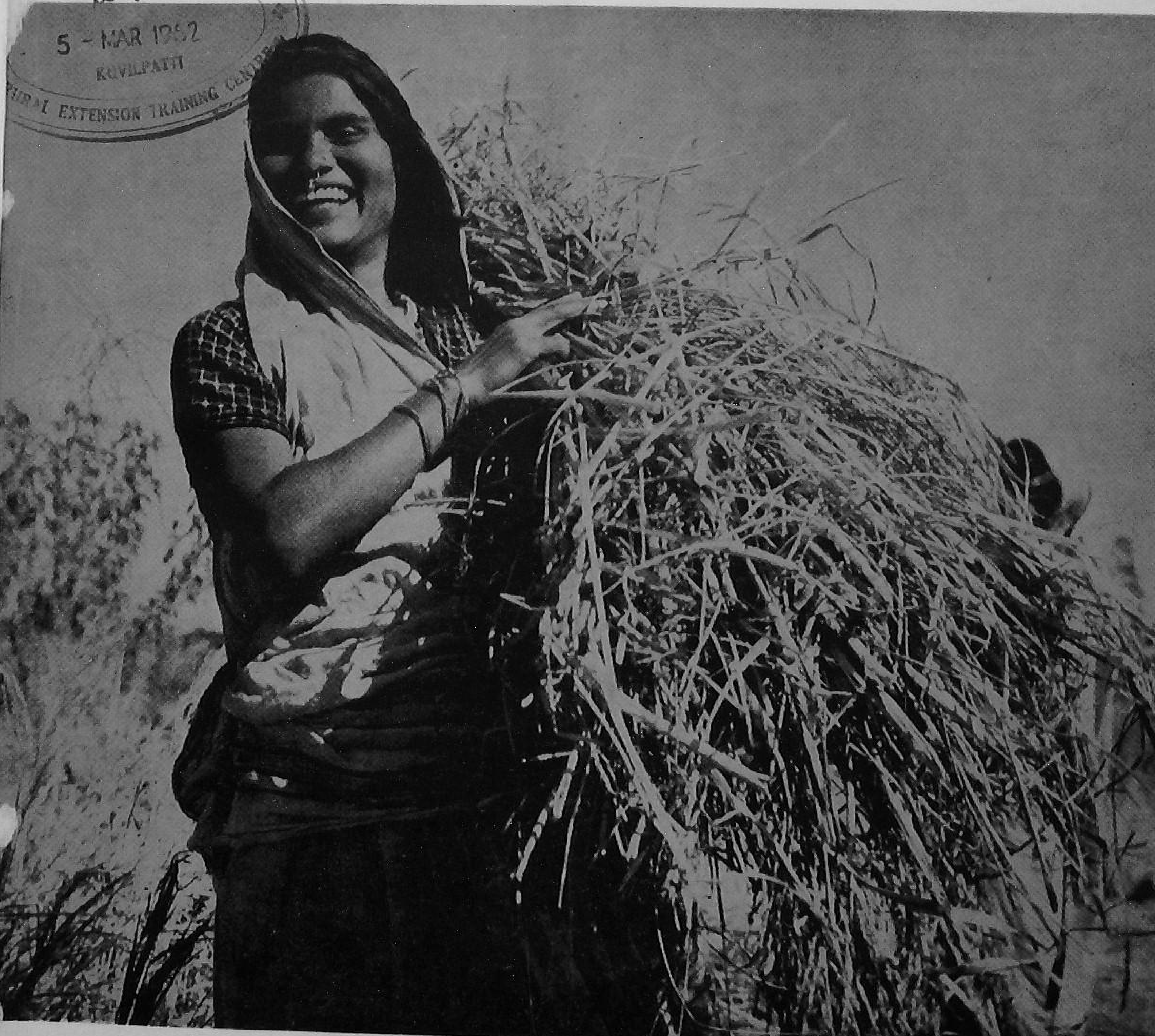
EXTENSION

OFFICE OF THE PRINCIPAL
5 - MAR 1962
KOVILPATTI
RURAL EXTENSION TRAINING CENTRE



THE FARM AND FARM HOME MAGAZINE February, 1962

THE PICTURE ON THE COVER *With a bumper harvest of paddy, this farm woman from West Godavari District in Andhra Pradesh greets her future with a radiant smile.*

—Photo by Rajinder Paul

EXTENSION

THE FARM AND FARM HOME MAGAZINE

ol. II February, 1962 No. 8

CONTENTS

ELD AND GARDEN CROPS

ew potatoes that yield well ... 2

me for planting late winter vegetables ... 13

IL AND FERTILIZERS

e Madras farmer's fertilizer guide ... 17

claiming the *kallar* soils ... 22

OP PESTS AND DISEASES

alert about these mango enemies ... 10

NIMAL HUSBANDRY

astitis in your herd ? ... 6

ws that don't calve ... 12

POULTRY

Vaccinate your chicks when a day-old ... 20

BETTER FARMING TIPS ... 5

HOME SCIENCE

Making bunny rabit is fun ... 25

FARM INFORMATION UNIT
DIRECTORATE OF EXTENSION, MINISTRY OF FOOD AND AGRICULTURE, GOVT. OF INDIA, NEW DELHI

Principal Editor	M.G. Kamath
Editor	T.C. Roy
Associates	Lal Karamchandani
	Sham Govind Ranade
	Shukla Das
Art Editor	Pratap Deb
Business Manager	R.D. Khanna

Annual Subscription : Rs. 5.50
Single Copy : 50 nP.

NEW

POTATOES

THAT YIELD WELL

By T. R. MEHTA

TWO varieties of potato, among many tried at the Central Research Institute, Gwalior, show that it is more profitable to grow them in place of others.

The Departments of Agriculture in each state are popularizing these improved varieties evolved by research on potato.

At Gwalior, about 50 varieties were tried to see which ones among them would be best for farmers to grow in the area. Among these varieties, *P.S. 194* and *P.S. 196* were found to be the best.

These new varieties, which were also tried by a few farmers in the villages near Gwalior and some of the potato-growing villages of the Punjab, were found to be excellent in yield. They were also found to have another important trait—they keep their high-yielding character intact even if you grow the variety year after year unlike other varieties which degenerate quickly.

Normally, when a farmer finds the potato seed going down in its yield-capacity, he has to obtain fresh seed raised in disease-free area and where seed is multiplied by experienced growers with the techniques which ordinary farmers do not know. Hence, the seed is costly and difficult to obtain. With *P.S. 194* and *P.S. 196* the farmers now need not go in for fresh seed every few years. Thus they will be able to reduce the expenses on seed.

This luxuriant crop of P.S. 196 *yielded as many as 340 maunds of potato*

How much better these two varieties can yield has been seen in the fields of Shri R. N. Sharma, a keen potato farmer of Gwalior. This potato farmer who has 300 acres under potato was till 1959 growing *Up-to-date* or (*Military Special*), *Satha* and *O.N. 2236*. This farmer was given a small quantity of the seed of the two new varieties sufficient for sowing two acres in 1959-60. Both the varieties did very well in that year and the farmer utilized the yield to put 15 acres under these varieties in the following year. Shri Sharma harvested a part of his crop early to supply the market with potatoes, when prices were high. The following yields per acre were taken of the crop that was allowed to mature fully and was in the field for 4 to 4½ months.

A plant of P.S. 196 *harvested 60 days after sowing*

Variety	*Yield per acre* (maunds)
Up-to-date	173
O.N. 2236	214
Satha	204
P.S. 194	398
P.S. 196	340

P.S. 194 and *P.S. 196* thus gave him very high yields compared to the other varieties. Of these two, *P.S. 196* is suited as an alternate to *Up-to-date* or *O.N. 2236*, because it forms tubers early and can yield 125 to 150 maunds of tubers of a salable size, 60 days after sowing. Within this period *Up-to-date* and *O.N. 2236* will not be able to give more than 80 to 100 maunds. Besides, these varieties get early blight attack and as a result produce a lower yield if allowed to grow to maturity.

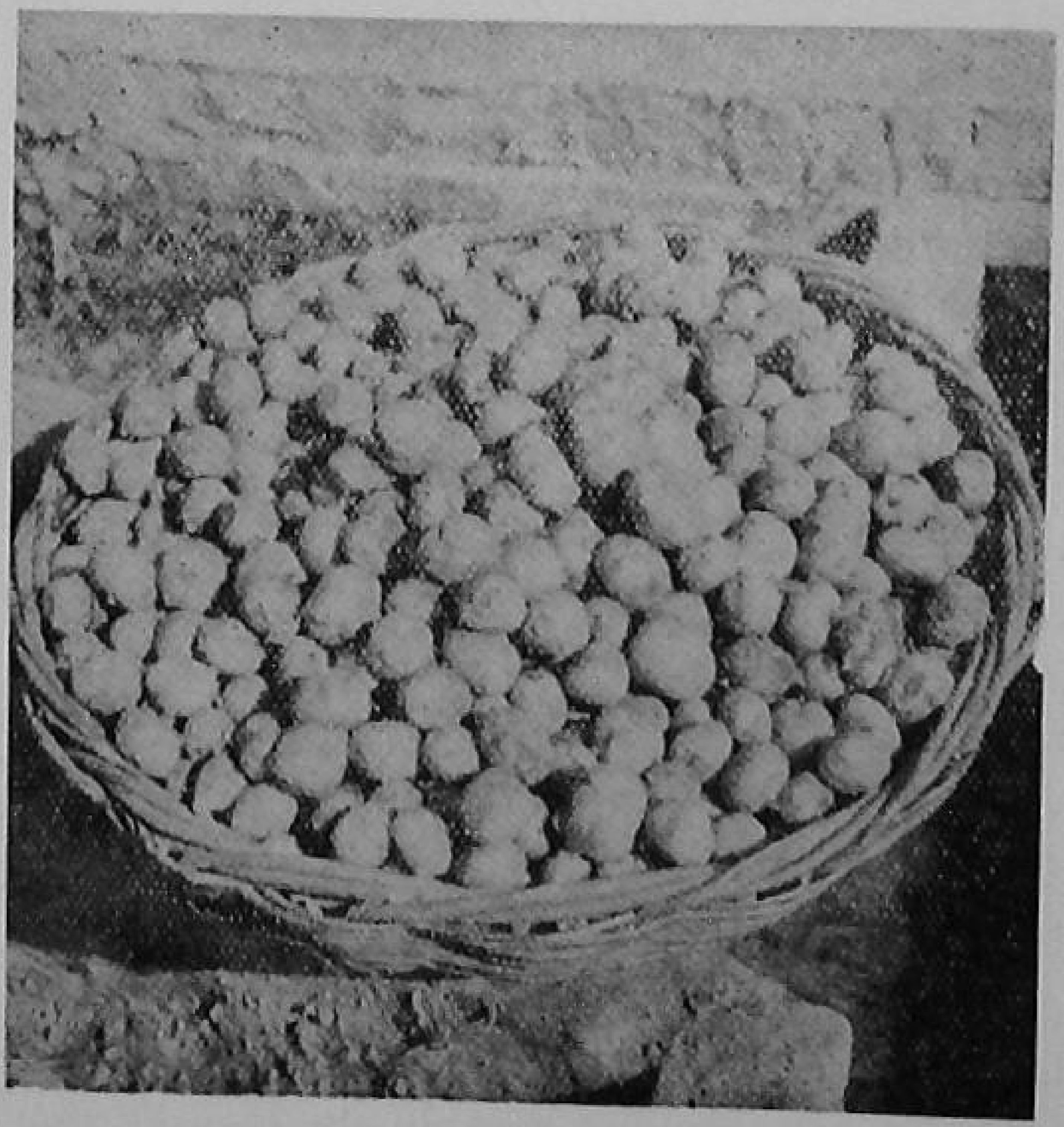
P.S. 194 is a medium early variety and can easily replace *Satha*, *Phulwa* and *Darjeeling Red Round* as the main season crop.

This year, Shri Sharma is planting the two varieties in 230 acres of the total of 300. He will be replacing the old varieties, including his favourite *Satha* with the new ones. He will also be trying another four new varieties *P.S. 416*, *P.S. 444*, *P.S. 529* and *P.S. 763.*

With these new varieties, Sharma expects his per-acre profit to go up to 600 to 700 rupees, which means an additional profit of about two lakhs per year. With this increase in profit, he will be investing a few lakhs on the expansion of his cold store and will help other farmers obtain good seed.

High-yielding potato varieties are a real gift to farmers. They should now take to growing these improved varieties without any hesitation.

Harvested tubers from the variety P. S. 196



BETTER FARMING TIPS

BETTER ARECA SEED

EVERY arecanut grower would like to have well-grown seedlings for planting. They can get such seedlings only when they sow good-sized heavy nuts.

In every bunch of arecanuts that the grower uses for sowing, not all the nuts are of the desired size for sowing. It is seen that only three-fourths of them are heavy and good and the rest are small in size and lighter in weight.

Sowing the good-sized heavy nuts will give good and robust seedlings for planting. Such nuts germinate early and grow up with more leaves. The number of seedlings suitable for planting are more, for you can get more suitable seedlings from such nuts.

Hence, make it a rule to sow only the heavier nuts.

INCREASING MOTIHARI YIELD

LATEST experiments point out the cultural practices that will fetch a better return from Motihari tobacco.

Research shows that the crop is best planted in the second week of November. This planting time gives better results than earlier or later plantings.

A closer spacing of 2 feet by 1½ feet is better than a wider spacing of 2 feet by 2 feet which farmers follow. Such a spacing in the experiment resulted in about 14 per cent higher yield.

So far as topping is concerned higher topping increases the yield, but topping higher than six leaves results in a low quality leaf.

WILT IN ARECANUT NURSERIES

WILT, the disease which appears in arecanut nurseries, can be controlled with any of these two chemicals : Ceresan wet (Bayer) and Leytosol.

Wilt is a fungus disease. The fungus gets into the seedlings through the roots. When there is an attack, the seedlings start wilting, and finally dry out.

The only method that can prevent this attack is to drench the soil with an effective fungicide. This should be done before the nursery beds are sown. A 0.10 per cent solution of Ceresan or Leytosol at one pound in 150 gallons of water can be used for the purpose.

If the seedlings are already affected, pull them out and destroy them.

MILDEW DISEASE OF CUMIN

APPLYING sulphur dust to the cumin crop has been found to check the attack of powdery mildew.

Powdery mildew is a disease which causes heavy lossess of cumin crop in Rajasthan.

The disease appears as greyish spots on the lower leaves during the months of January and February; soon these spots become larger and the leaf is covered with a powdery material (spores). In course of time, stems also get covered with such powdery material.

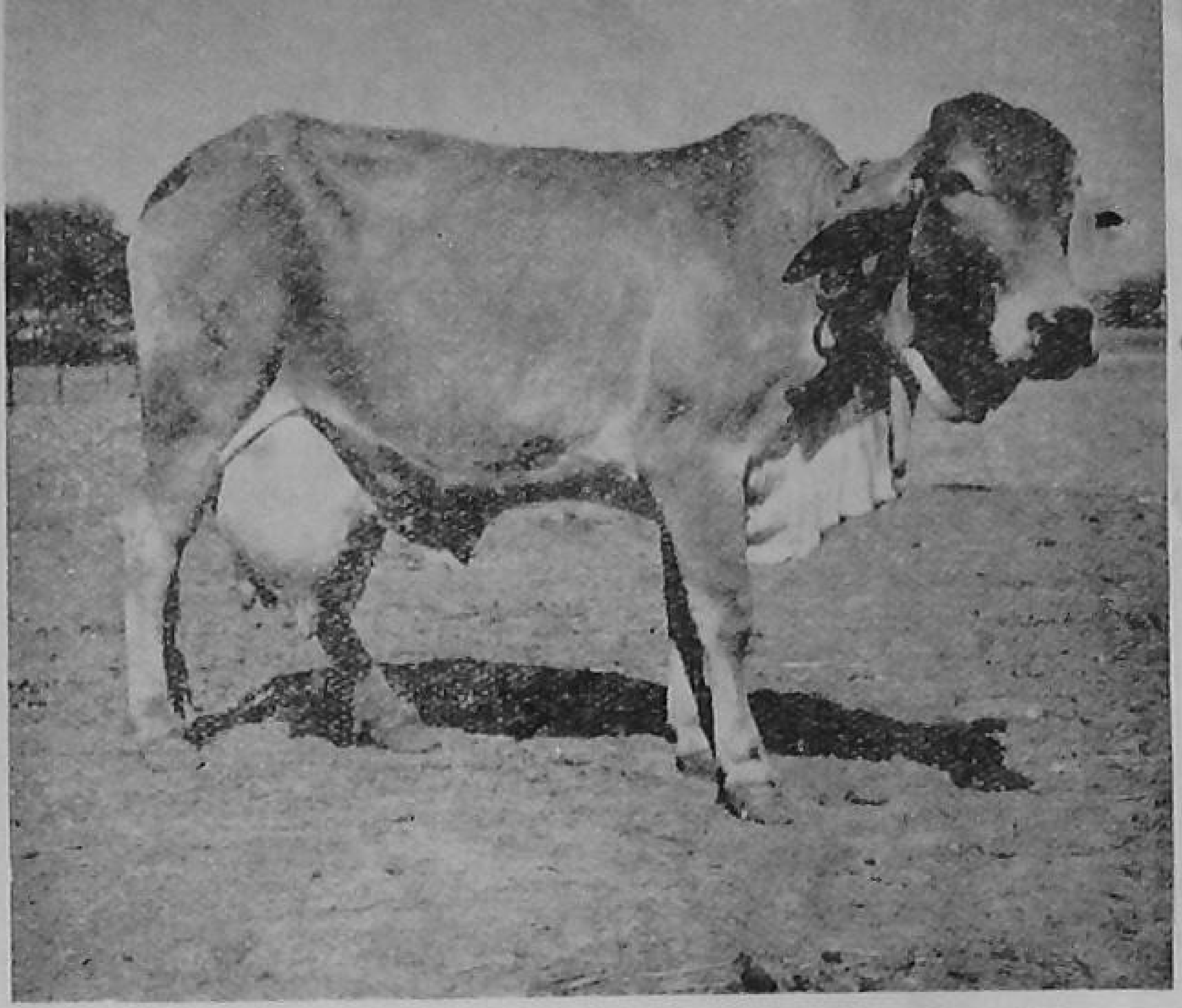
When the attack is severe, stems, flowers and fruits all are affected, so much so that the fruits do not mature, but become lighter in weight. The yield goes down.

Farmers are advised to dust finely-powdered sulphur dust at the rate of 25 pounds per acre once, and if the attack is serious, twice on the crop.

Mastitis

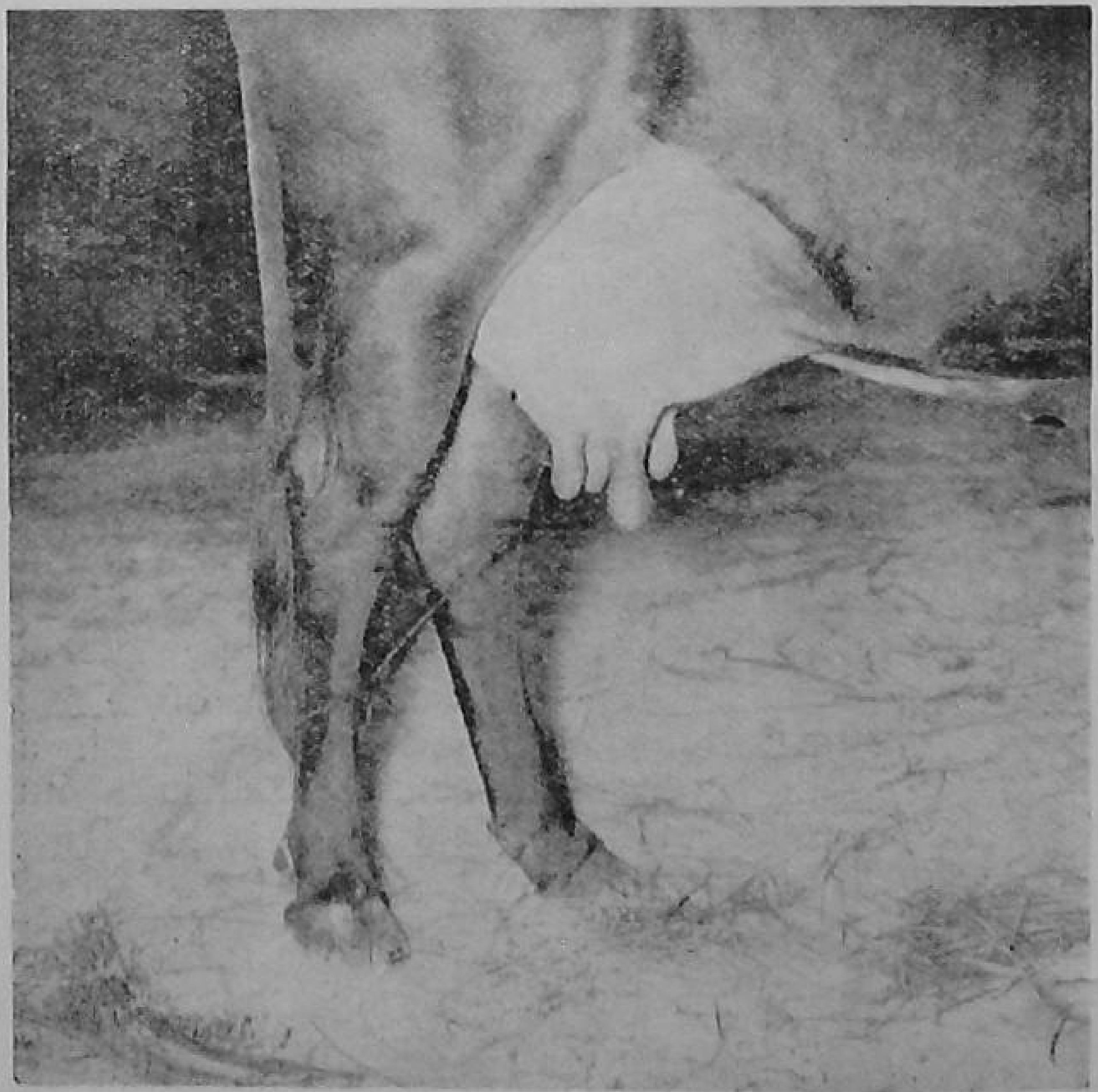
IN YOUR HERD?

By O. P. MALHOTRA



A mastitis-affected animal—have it immediately treated if your herd has any

The disease can be detected when the teat of the udder stands out hard and shining



No one can definitely say the exact number of dairy animals that suffer from mastitis each year in our country. But all agree that this number is pretty high.

Mastitis, the disease of the udder of the milch animals, not only makes the animal unprofitable to keep but also makes it a source from which other animals get the disease.

When mastitis occurs, the udder gets swollen. One, two or all the teats of the udder may be affected at one time.

CAUSES THAT LEAD TO MASTITIS

The disease is caused by germs. Poor management, wrong methods of milking, poor feeding and unhealthy conditions make it easy for mastitis germs to attack the animal.

The germs find it easy to enter an udder which is bruised or injured due to other cows treading on it, or by being kicked by another animal or due to such causes as lying down on hard grounds, crossing a barbed wire fence, thorns in the pasture or stumps in the cattle-shed.

The germs get into the teat from the floor where an affected animal has been tied, from dirty water, infected hands of a milker or the discharge from an infected animal.

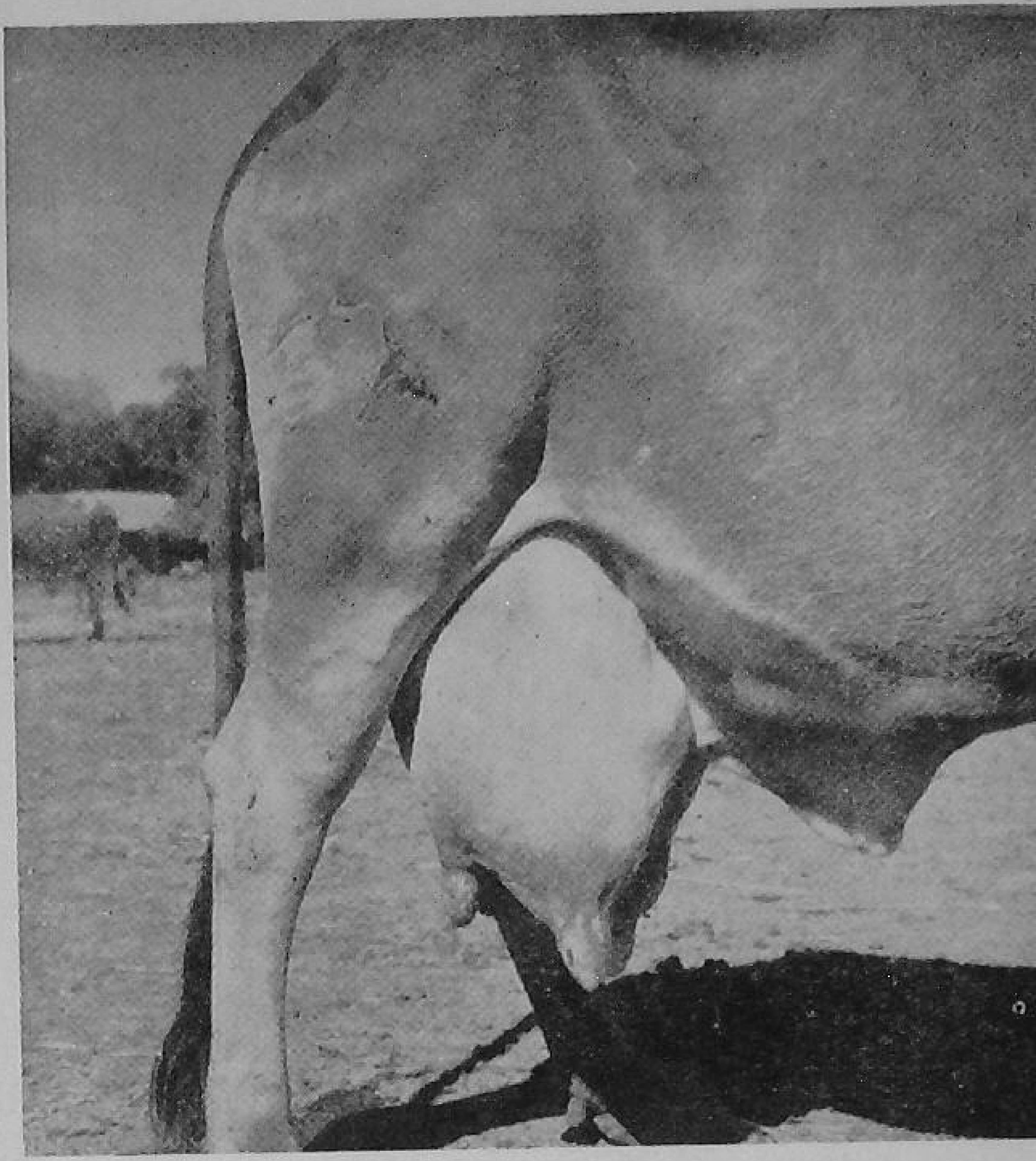
If there is one common cause for the animal to get mastitis, it is the incomplete milking of the udder. Wrong methods of milking and allowing the animal to be on a damp floor, wet pastures and stagnant drinking water are the other easy ways for an animal to get the disease.

SYMPTOMS

You can detect mastitis in animal when you find one teat of the udder hot, hard, shining and sensitive to the touch. When you draw milk, you will find it yellowish and whey-like with a little curd in it. Later, milk becomes scanty and you will find clots in it. As the disease advances, there will be no more milk, but a blood-tinged and watery discharge coming out of the udder. The animal may get fever and also lose appetite.

PREVENTION AND CONTROL

You can easily prevent mastitis by putting in a little extra care in managing your milch animals.

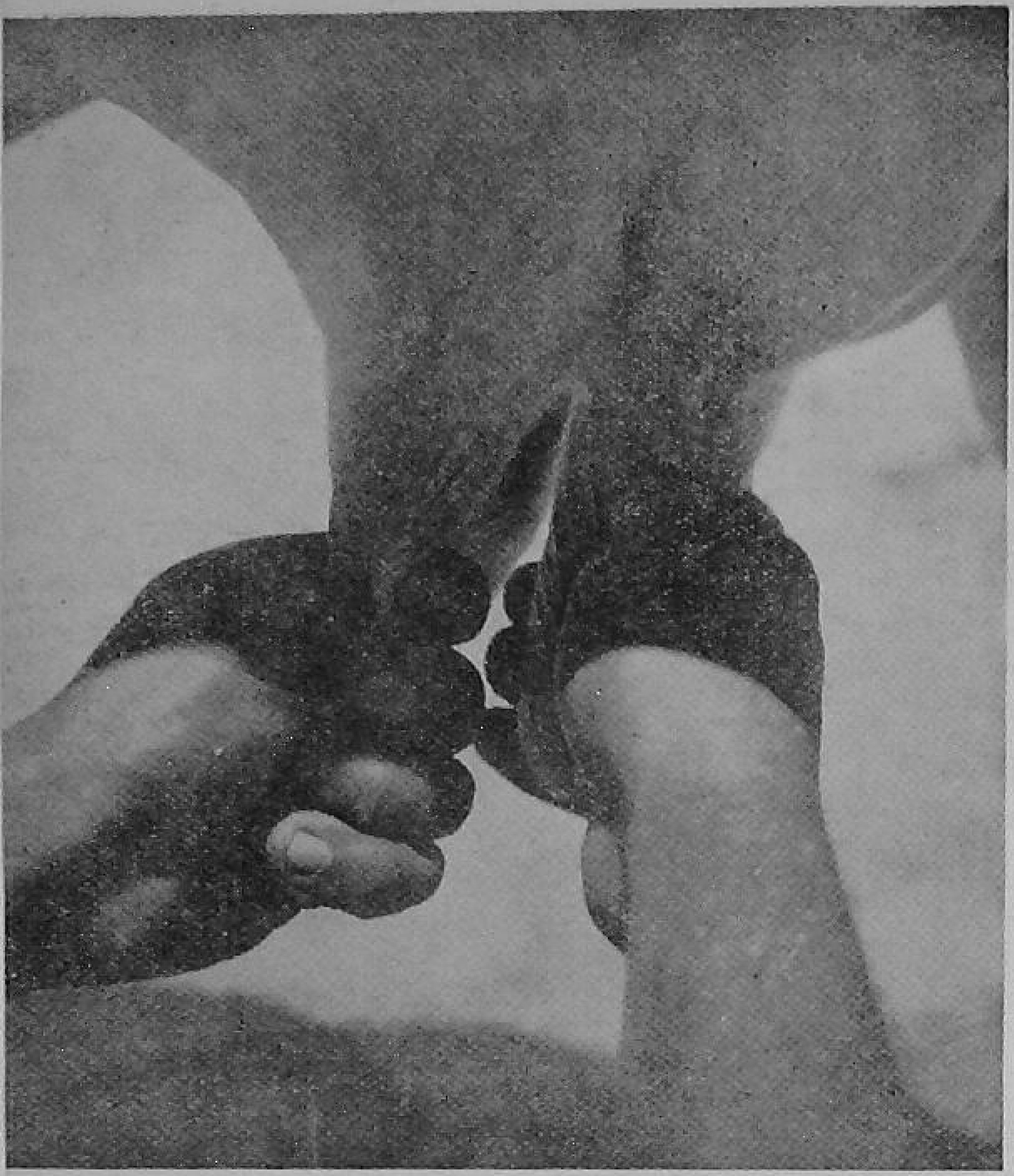


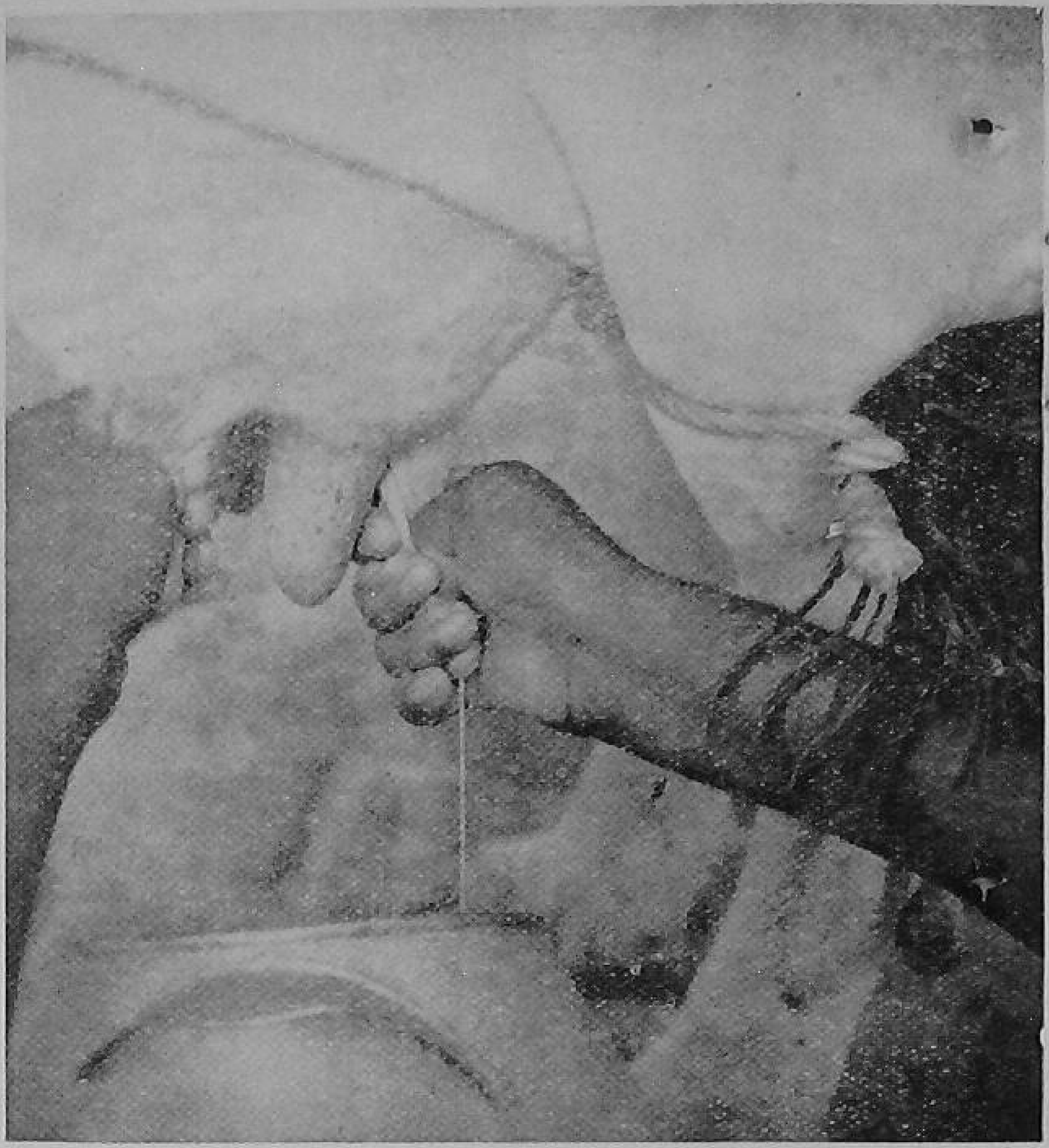
One, two or all the teats may be affected at one time

As soon as you see any udder injuries, have them immediately treated.

See that the stalls are properly constructed with enough space for each animal. To prevent one animal treading on another or butting it, have partitions. Provide a dry and soft bedding. See also that the floor is kept dry.

Have your milking done according to a plan. Animals get used to this routine. Clean the udder well before milking. A good method to do this would be to put a duster in a warm water bucket. Add any disinfectant to the water, if you can. Take out the duster from the water, wring it out and clean the udder of the animal well. Let the teats be dry. Then start milking.



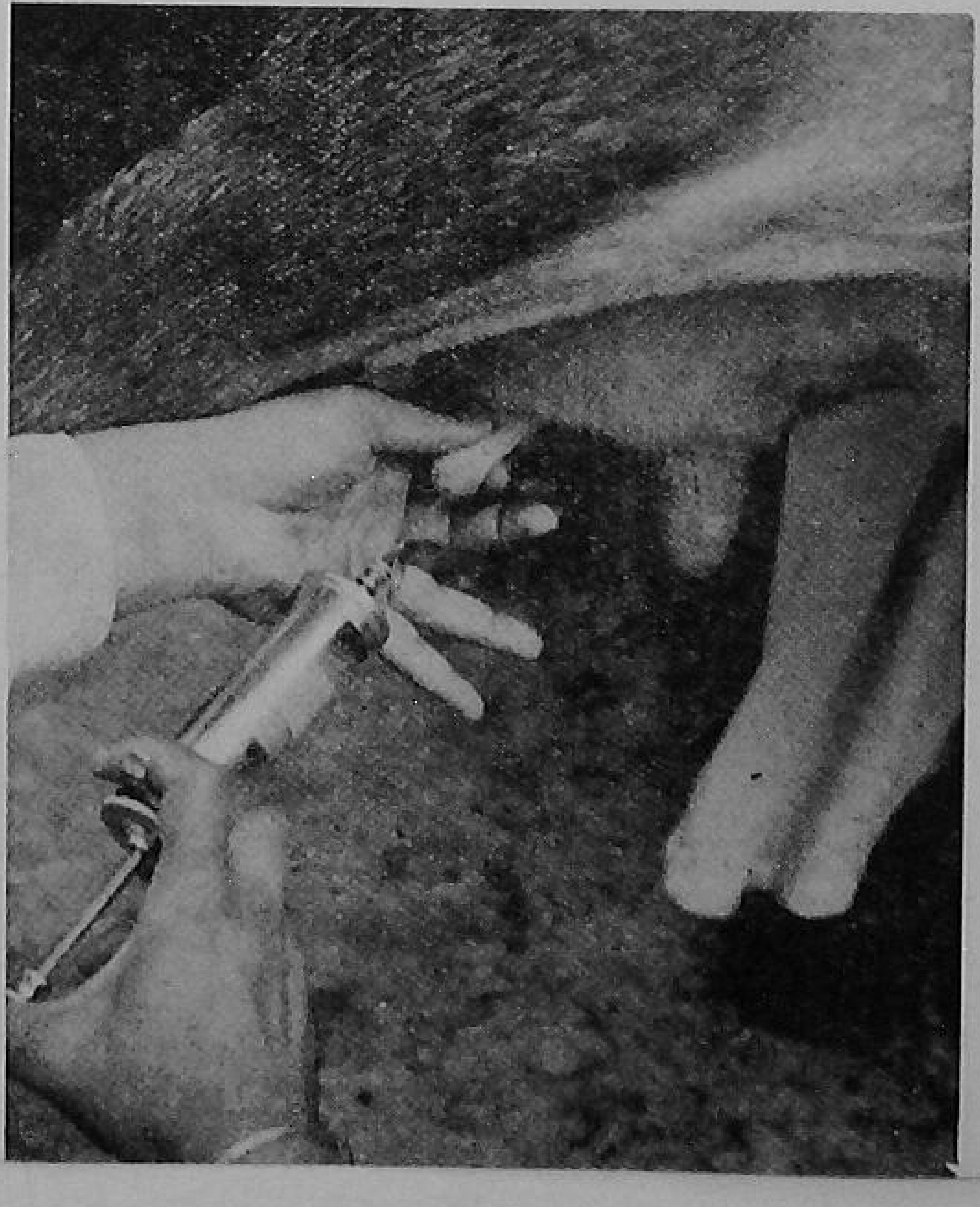


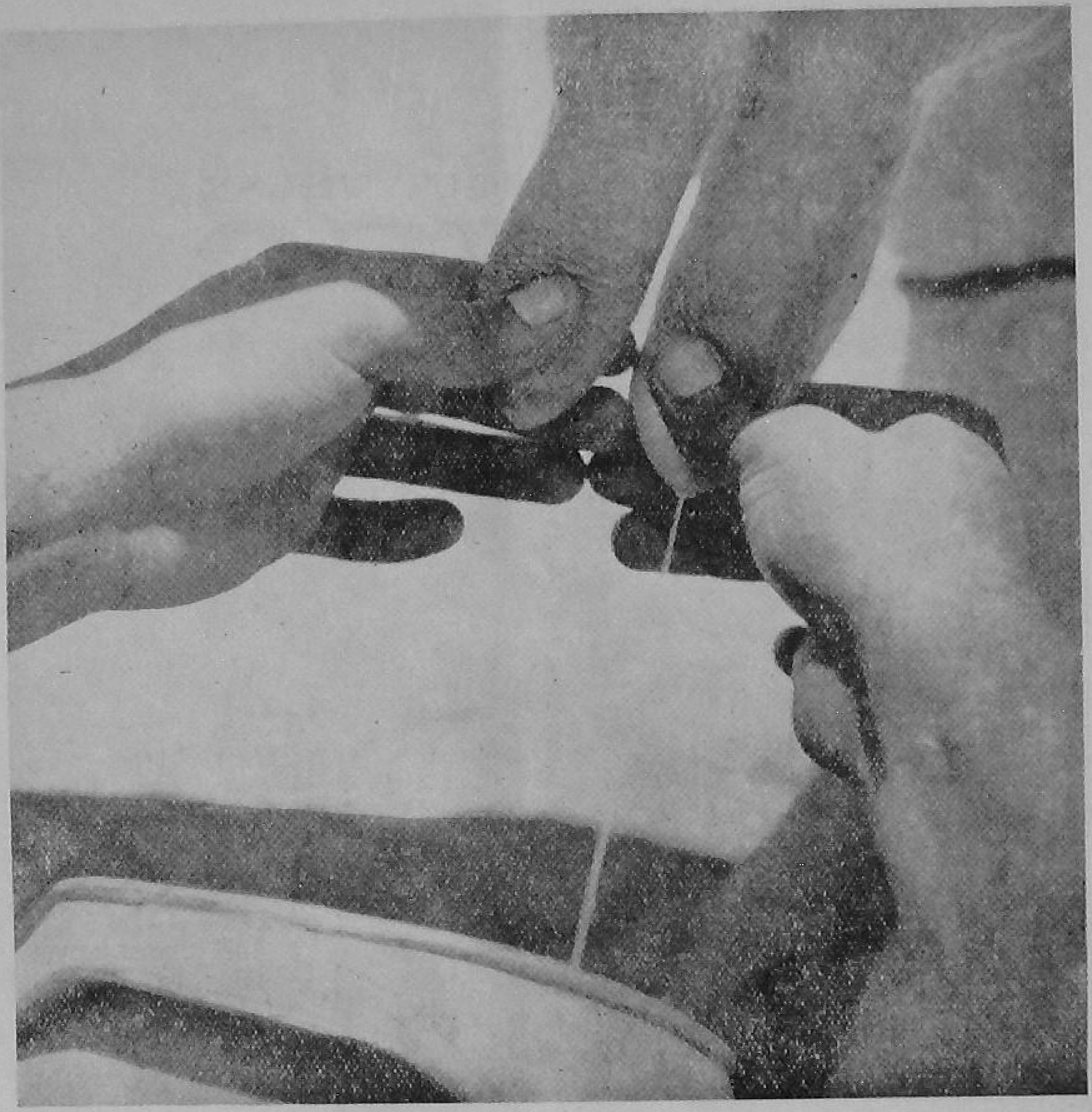
These are the wrong ways of milking. Avoid putting the thumb between the teat and your palm

Before milking, take out a few streams of milk from each teat separately into a cup or a piece of black cloth and watch for anything unusual. If it is normal, the teat should be milked. In case you suspect that the milk from any teat is not normal, milk this teat into a separate container. Milk from a mastitis-affected teat should not be used for drinking. Dispose of such milk so that it will not be a source of infection.

Milk quickly, smoothly and completely. Use the correct method of milking. After milking, see that no milk sticks to the teats. Boil the cloth you have used for cleaning the udder and dry it in the sun.

Never attempt treating the animal yourself ; take help from a veterinary doctor





Make it a practice to draw a few streams from each teat separately into a strip cup and look for abnormalities every time you milk your animal

Also wash your hands in warm soapy water and then in chlorine or potassium permanganate solution and dry them before milking the next animal.

INFECTED ANIMAL

When you have an animal suffering from mastitis, have it milked only after all the healthy animals have been milked. Have the milk of this animal in a special container and destroy it. Do not feed it to calves or human beings. Do not also put this animal to pasture. See that you empty its udder completely. Clean the udder with a disinfectant solution and seek immediate help from the nearest veterinary doctor. He will be able to suggest how you should treat the animal.

BE ALERT ABOUT THESE MANGO ENEMIES

By D. B. REDDY

MANY farmers see their mango trees in full blossom, but later find but a few fruits formed, or none at all !

This happens because of attacks from certain insects and diseases during the flowering period. Among the pests are the mango hoppers and mealy bugs, and among diseases, the mildew.

Mango hoppers (also called jassids) are small greyish brown insects. Three kinds of these insects attack the mango. They suck the juice from flowers and tender leaves. They lay eggs in flower buds and thus damage them. They also damage the mango tree by excreting a honey dew on the flower shoots and leaves, on which a sooty mould develops.

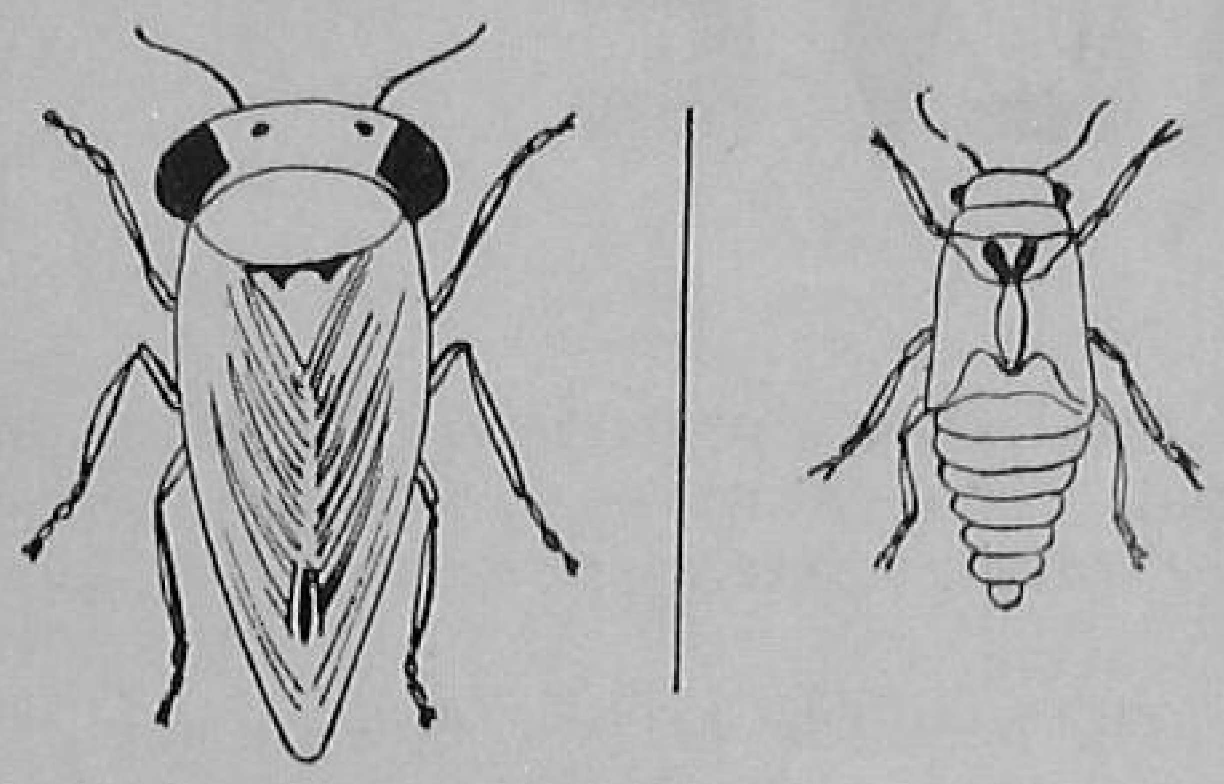
The hoppers are active soon after the flower buds open. Mango blossoms suffer the most in January-February.

The mealy bug, a soft-bodied, plump insect, is the other pest of the mango. It sticks on to the flower stalk, the mid-rib of young leaves and

the tender shoots, from where it sucks the sap. Attacked parts die, and flowers do not set fruit properly. The stalks become so weak that with the slightest jerk, the fruits drop off. Like the hopper, the bug also gives out honey dew which encourages the development of sooty mould.

The bug-attack starts in January and goes on up to mid-April. In April-May, it lays eggs in the soil near the base of the tree trunk. The young ones which hatch out climb over the trees.

A serious disease of the mango flowers is the mildew. The disease often is seen at



Mango hopper—adult (L) and nymph (R)

the same time as the mango hopper attack. It attacks fruits, flower scales, tender buds, axils and stalks. The attacked portion gets a white covering of the fungus, which turns powdery later. Flowers which are attacked fail to open, and shed. Young fruits, if attacked, do not grow in size and drop off.

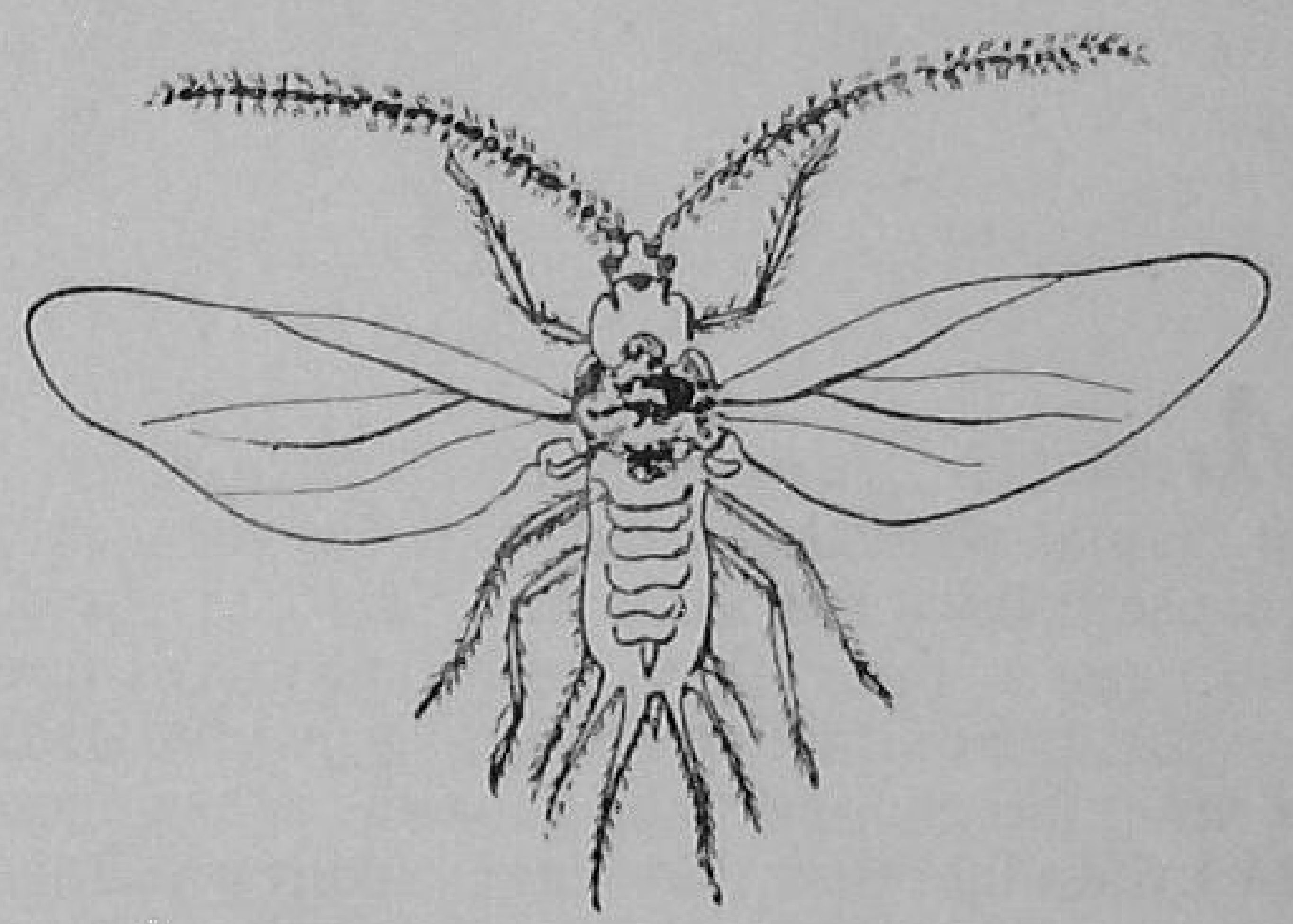
You can control mango hoppers by spraying 0.16 to 0.25 per cent DDT on the trees. Mix 1 pound of 50 per cent wettable DDT in 20 to 30 gallons of water. You can also use 0.03 per cent 'Diazinon,' 'Endrin' or 'Parathion' (20 per cent E.C. at 1 ounce in 4 gallons of water). One spray given just after the flowers have opened should be sufficient to control the pest.

You can control the mealy bugs by :

• Keeping the area around the tree trunk clean, and stirring the soil round the base up to September. This way the eggs are exposed and are killed.

• Putting a 2-inch wide and 1/8th inch thick board round the tree trunk, 2 to 3 feet above the ground in December. This will prevent the young bugs from crawling up on the tree.

• Dusting 5 per cent 'Aldrin' round the base of the tree or spraying 'Dieldrin' (20 per cent) at one ounce in three gallons of water around the base of the tree and on the trunk up to 2 to 3 feet, if you do not get the sticky band.



Mango mealy bug—it has a pair of smoky wings

• Spraying 0.05 per cent 'Malathion' when bugs are seen on the tree. Apply the spray at 3 to 4 gallons per tree, depending on the size of the tree.

For powdery mildew, dust or spray sulphur on the tree. Use finely-powdered sulphur (250 to 350 mesh) or spray wettable sulphur at one pound in 30 gallons of water.

Since mango hoppers and powdery mildew occur together many times, you can combine the control measures for both.

It is better that you do not wait for the disease or pests to appear, but take action early. If you have any difficulty, consult your Gram Sevak or Agricultural Extension Officer of your Block.

COWS THAT DON'T CALVE

By M. H. PATHAN

MOST farmers or dairymen believe that the animal which has been mated is pregnant, because it does not show any sign of heat. But many a time they find that after some months, the animal comes into heat or fails to show the changes that go with pregnancy. They then feel that they have spent on looking after an animal which will not be giving them the calf or the milk.

An animal, if it is to be paying, one should be productive. If you want the dairy animal to increase its output and cut down the cost of maintenance, it should regularly calve and have short dry periods. For this purpose, it should be free from diseases which prevent regular calving.

To many it will be a surprise that cows not producing calves regularly or not producing calves at all are responsible for losses which are greater than those caused by dangerous diseases.

Infertility is not a disease in itself but may be caused by bad management or by a large group of diseases.

It is always better, and also very easy, to get the animal examined to see whether its reproductive organs are healthy and normal. This, however, you have to get done through a veterinary doctor.

The need for getting the animal examined is also necessary in cows. Sometimes a pregnant animal also shows signs of heat. If such an animal is mated again, abortion may result.

A veterinary doctor can definitely diagnose pregnancy of a period of three months and above. An experienced doctor can do it when pregnancy is even of a shorter duration. If the animal is not pregnant, he will be able to tell you the reason for its being so.

Even when you want to sell or purchase an animal, it is better to pay thought to the period for which it is going to be dry, for you have to pay for keeping it. The animal will be a source of income only when it calves.

Hence, a wise farmer and a wise dairyman will always make it a point to ensure that they maintain only paying animals by getting them examined for pregnancy.

TIME FOR PLANTING LATE WINTER

VEGETABLES

Now is the time to plant your late winter varieties of such vegetables as brinjal, chillies, musk melon, radish, cucumber, lady's finger and bitter gourd.

BRINJAL

RAISE seedlings in the nursery and then transplant. Prepare a seed-bed, manure it with well-rotted farmyard manure or leaf mould. Sow $\frac{1}{2}$ to $\frac{3}{4}$ pound of seed (sufficient for an acre) in regular rows and level the surface of the bed. Cover it with dried grass or gunny. Remove the cover as soon as the seed starts germinating. The seedlings will be ready for transplanting in six to eight weeks.

By growing improved varieties and with proper care, brinjal can give a very high yield

Select and plant only healthy seedlings in raised or flat beds. Space the plants at 2 feet between rows and $1\frac{1}{2}$ feet between plants. (For *Pusa Purple Round*, the spacing should be $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet). Irrigate immediately after and every 10th or 12th day.

Top-dress with three to four maunds of ammonium sulphate or a mixture of equal doses of ammonium sulphate and superphosphate per acre. Apply the fertilizer on both sides of plant rows.

An average yield of 150 maunds can easily be harvested from an acre.

CHILLIES

You can sow chillies from now till the end of March. Raise seedlings in the nursery. One to one and a half pound of seed will suffice to plant an acre. But if you go in for direct planting (as in the Punjab), you will need four pounds.

Prepare flat beds, manure with sludge or compost, and plant out the seedlings with

Spray chillies with tobacco decoction if you want to save them from thrips

Bhindi *plant in flower and fruits; harvest the pods when they are tender*

a spacing of 1½ to 2 feet between rows and 1 foot to 1½ feet between plants.

Three weeks after planting, apply liquid manure or ammonium sulphate at the rate of five to six maunds per acre. This can be applied in two or three doses at fortnightly intervals. Irrigate every seven to ten days.

You can harvest green chillies after 60 days of transplanting and the red ones after 90 days.

LADY'S FINGER

Dig up the plot and apply farmyard manure or compost at 20 tons per acre. After levelling the soil, sow seeds 1 foot apart in rows 1½ to 2 feet apart. About 10 to 12 pounds of good seed will go to an acre. You can continue planting from February to March.

A month after sowing, apply ammonium sulphate at three to four maunds per acre. A mixture containing equal parts of groundnut cake, ammonium sulphate and superphosphate is also recommended.

Bottle gourd takes 75 to 90 days to mature, giving 200 maunds an acre

Irrigate every 10 to 14 days.

In the early stages of crop growth, mosaic-affected plants may show curled up leaves due to an attack of jassids and white flies. Uproot and remove such plants.

Plants start fruiting after 45 to 50 days after sowing. Pick when pods are tender.

A pumpkin—plant needs an area of 150 square feet for spreading

An average yield of 80 to 100 maunds per acre is what you should get.

BOTTLE GOURD

Sow between February and March.

Make beds five to eight feet wide. Dig them and add 10 to 25 tons of farmyard manure or compost. Sow the seed on either side of the bed. You will need four pounds of seed for an acre.

The seed germinates within a week's time. Thin out the seedlings, keeping only good, strong ones.

Irrigate at four to five days' interval. Apply three to four maunds of ammonium sulphate to the crop.

PUMPKIN

Sow between February and March.

About four pounds of seed will suffice to plant an acre.

Prepare beds six to eight feet wide, and sow on both sides of the beds. A spacing of three feet between plants is recommended.

The crop needs 15 tons of farmyard manure and two to three maunds of ammonium sulphate per acre. Irrigate at seven days' interval.

The yield ranges from 250 to 300 maunds.

BITTER GOURD

Sow the seed on both sides of the beds (each four to five feet wide) 1½ feet to two feet apart. Four to five pounds of seed will be needed. You can continue sowing till March.

Manure the beds with 20 tons of farmyard manure and apply two to three maunds of ammonium sulphate an acre. Irrigate at four to five days' interval. The crop will need a bower.

An acre of bitter gourd will yield 80 to 90 maunds of fruit.

Raise **ash gourd** and **sponge gourd** in a similar manner. An acre of sponge gourd will yield 125 maunds of fruit, and ash gourd 200 maunds, on an average.

MUSK MELON

Musk melons are usually sown in circular pits in river beds. You can sow the seed from mid-January to March.

Three to four pounds of seed will go to an acre. Better sprout the seeds by keeping them in a wet gunny cloth before sowing.

Sow on both sides of the beds eight feet wide, giving a spacing of three to four feet between seeds.

To get good yields, you have to feed the crop with 20 tons of farmyard manure or compost and two to three tons of ammonium sulphate per acre.

Irrigate at seven days' interval in the early stages of crop growth, and later increase the interval to fourteen days. Fruits will be ready in 100 to 120 days.

SQUASH MELON

Sow seed from mid-February to April, using a seed-rate of four to five pounds an acre.

Make beds of four to five feet width, and sow on both sides.

Manure with 15 tons of farmyard manure per acre. Apply two to three maunds of ammonium sulphate after a month of sowing.

Water regularly at four to five days' interval. Keep the land free of weeds.

An acre of squash melon will yield about 100 maunds an acre.

CUCUMBER

For an early summer harvest, sow the seed now. You can continue the sowing up to March.

Two to three pounds of seed will be sufficient for planting an acre.

Sow in circular pits on both sides of the bed at two to three feet distance.

Irrigate regularly to keep the soil just moist. Do not over-irrigate. The approximate interval for irrigation is four to five days.

The crop needs 15 to 20 tons of farmyard manure per acre. When the plants are a month old, give two to three maunds of ammonium sulphate.

Fruits start setting after 60 to 90 days of sowing, and continue for two months.

Pick when the fruits are green and tender.

Cucumber—consumers like it green and tender

The Madras Farmers' FERTILIZER GUIDE

HERE IS A GUIDE THAT TELLS THE MADRAS FARMER WHAT AND HOW MUCH OF FERTILIZERS TO USE FOR IMPORTANT CROPS HE RAISES

Crop and Tract	*Nitrogen* (N)	*Phosphoric acid* (P_2O_5)	*Potash* (K_2O)	*Remarks*
Paddy				
Coimbatore, Ramanathapuram, Tirunelveli, Tanjore (Old Delta)	30	30	Nil	Basal dressing of 5,000 pounds of green manure
South Arcot, Nilgiris, Salem, North Arcot, Trichy, Madurai, Tanjore (New Delta)	30	30	15*	Basal dressing of 5,000 pounds of green manure
Kanyakumari, Chingleput	30	30	30*	Basal dressing of farmyard manure at 10 tons per acre or 10,000 pounds of green manure.
Sugarcane				
South Arcot and other districts	250	60*	80*	

Crop and Tract	*Nitrogen* (N)	*Phosphoric acid* (P_2O_5)	*Potash* (K_2O)	*Remarks*
Cotton				
Rainfed, (Areas receiving less than 30 inches of rainfall)	—	—	—	Basal dressing of 5 tons of farmyard manure
Irrigated (All areas)	40	15*	15*	Basal dressing of 5 tons of farmyard manure
Oilseeds				
Groundnut Rainfed (Areas receiving over 30 inches of rainfall)	10	10 to 20	20 to 30	Basal dressing of 2½ tons of farmyard manure
Groundnut (Irrigated)	15	30	45	Basal dressing of 5 tons of farmyard manure
Coconut	0.6	0.6	1.2	Over the basal dressing of 100 pounds of green leaf per acre; ¼ dose of fertilizers per tree below 5 years of age; ½ dose for trees 5 to 10 years of age
Gingelly	—	—	—	5 tons of farmyard manure or compost per acre as basal dressing
Millets				
Irrigated *Cholam* (*Co. 18*)	40	20	0	Basal dressing of 5 tons of farmyard manure
Irrigated *Cumbu* (*X. 3*)	40	20	0	,,
Irrigated *Ragi* (*Co. 7*)	40	20	20*	,,
Rainfed				
Areas receiving less than 30 inches of rainfall (*Cholam* and *Cumbu*)	—	—	—	Basal dressing of 5 tons of farmyard manure
Areas receiving 30 to 32 inches of rainfall (*Cholam* and *Cumbu*)	—	—	—	Residual effect of fertilizers applied to the cotton crop plus 5 tons of farmyard manure will be enough

Crop and Tract	*Nitro-gen* (N)	*Phos-phoric acid* (P_2O_5)	*Potash* (K_2O)	*Remarks*
Areas receiving above 35 inches of rainfall (*Cholam Co. 19*)	30	20	0	Basal dressing of 5 tons of farmyard manure
Potato				
Manure mixture with the following manures and fertilizers to be applied to one acre.	Groundnut cake 500 pounds, ammonium sulphate 200 pounds, steamed bonemeal 350 pounds, super-phosphate 672 pounds, potassium sulphate 224 pounds			Basal dressing of 5 tons of farmyard manure
Chillies	50	30	30	—
Fruits				
Banana (Tanjore, Trichy)	200	70	250	Basal dressing of 10 tons of farmyard manure
Grapes	60	30	100	Basal dressing of 10 tons of farmyard manure per acre
Citrus	0.5	1.0	1.5	Basal dressing of 100 pounds of farmyard manure per tree*
Vegetables				
Leafy	45	—	—	Basal dressing of 10 tons of farmyard manure per acre
Tobacco				
Rainfed	20	30	—	Basal dressing of 5 to 10 tons of farm-yard manure (potash to be used in the form of potassium sulphate)
Irrigated	30	30	30	
Virginia	15	45	30	
Turmeric	50	45	45	Basal dressing of 5 to 10 tons of farm-yard manure

(The mark * represents the dosage suggested by representatives of farmers or firms on the basis of experience on trials conducted by them).

VACCINATE

your chicks when a day old

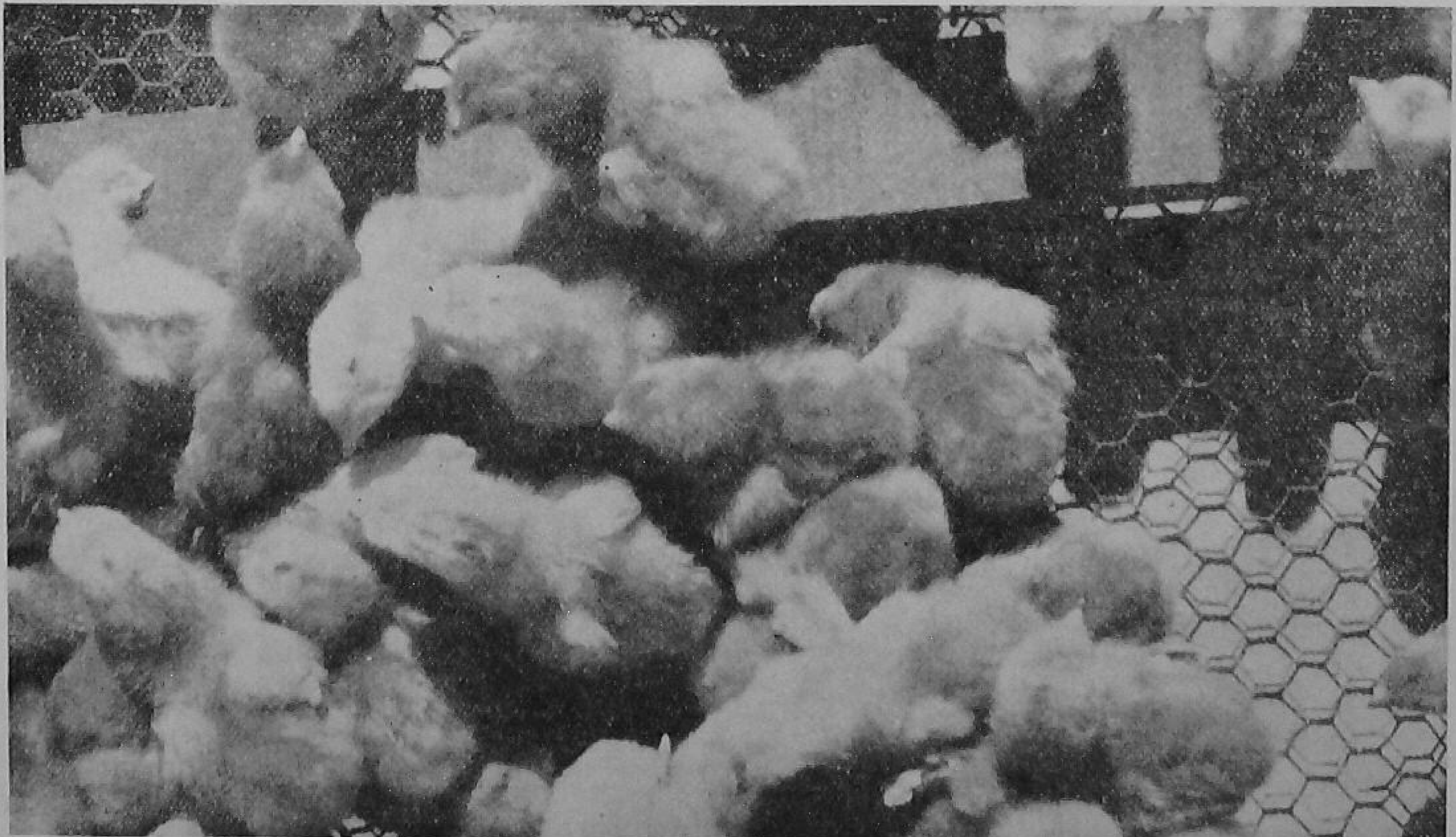
By S. G. IYER

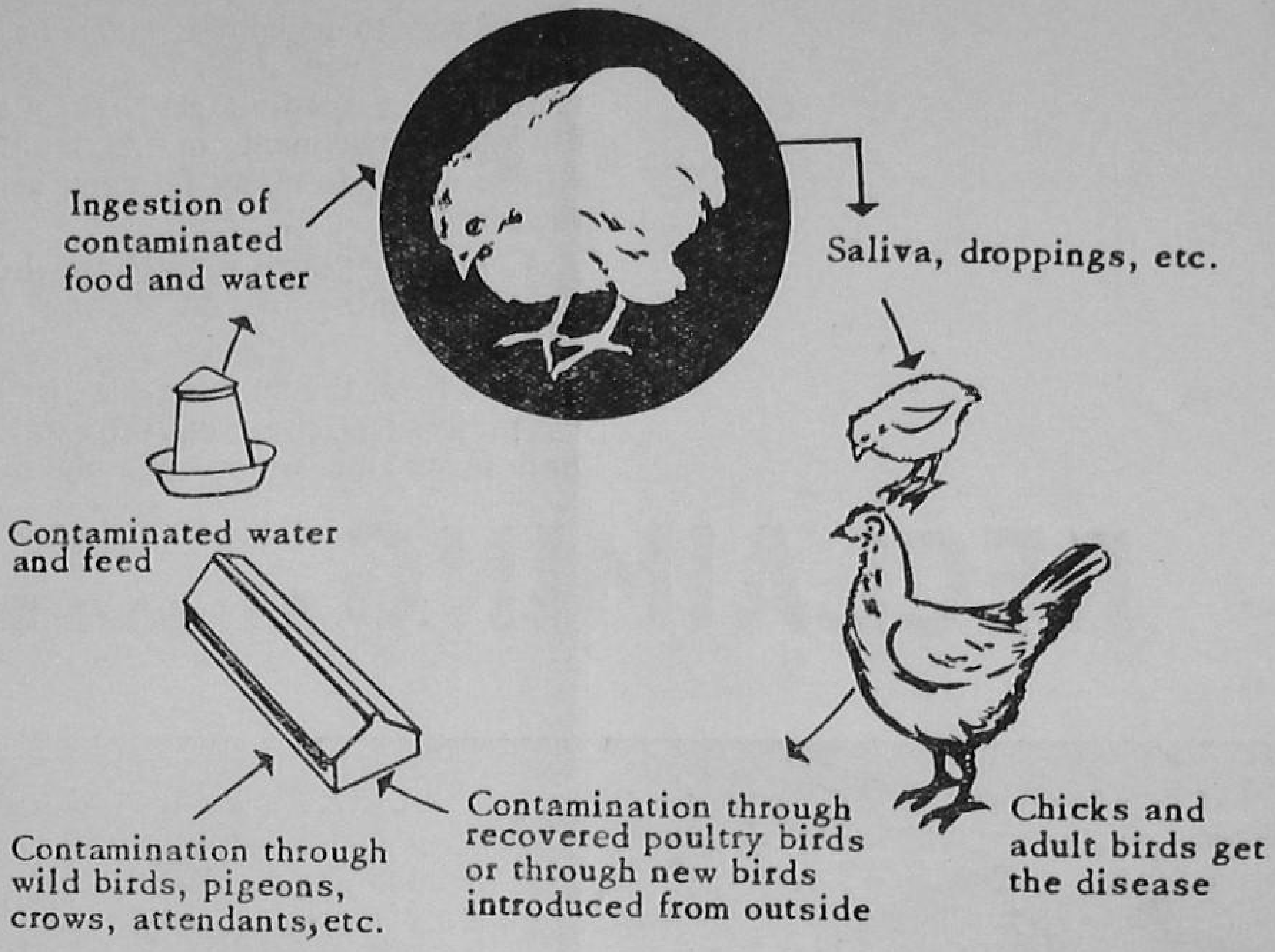
A new vaccine has now been produced which poultry farmers can use for vaccinating day-old baby chicks and protecting them against Ranikhet.

The Poultry Research Division, Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh, which evolved this new vaccine, found that day-old chicks, when given this vaccine in the nostril or eye, became immune to the disease in 48 hours. The immunity lasts for 16 weeks.

Ranikhet is a very deadly disease of chicks. Sometimes it kills birds in a few hours after attack. In a chronic state, it lasts for three to four weeks. In affected

Just-born chicks—they need protection against Ranikhet





The life-cycle of Ranikhet disease

birds you notice fever, thirst, a watery yellowish diarrhoea with a bad smell, and paralysis. When the disease is chronic, twitching of the head and lameness or paralysis of the legs and wings may occur.

Sometimes, Ranikhet is mistaken for very many other diseases. As such, it is better to find out what exactly the disease is when the birds show these symptoms. For which the help of a veterinary doctor is needed.

There is no treatment for Ranikhet. So far, clean rearing conditions and vaccination have been the only way of preventing the disease from attacking the birds.

For the last 20 years, veterinary doctors in India have been using a vaccine which is able to protect 4 to 6-weeks-old chicks.

It is easy to vaccinate day-old chicks with the new vaccine as you do not need any syringe or other equipment for the purpose. However, since the immunity lasts for a short time, it is better that you again vaccinate the birds when they are six to eight weeks of age with the usual vaccine that is available.

With farmers raising a large number of baby chicks today in several areas of the country, it is best that these chicks are given complete protection with the new vaccine now made available by the Izatnagar Institute.

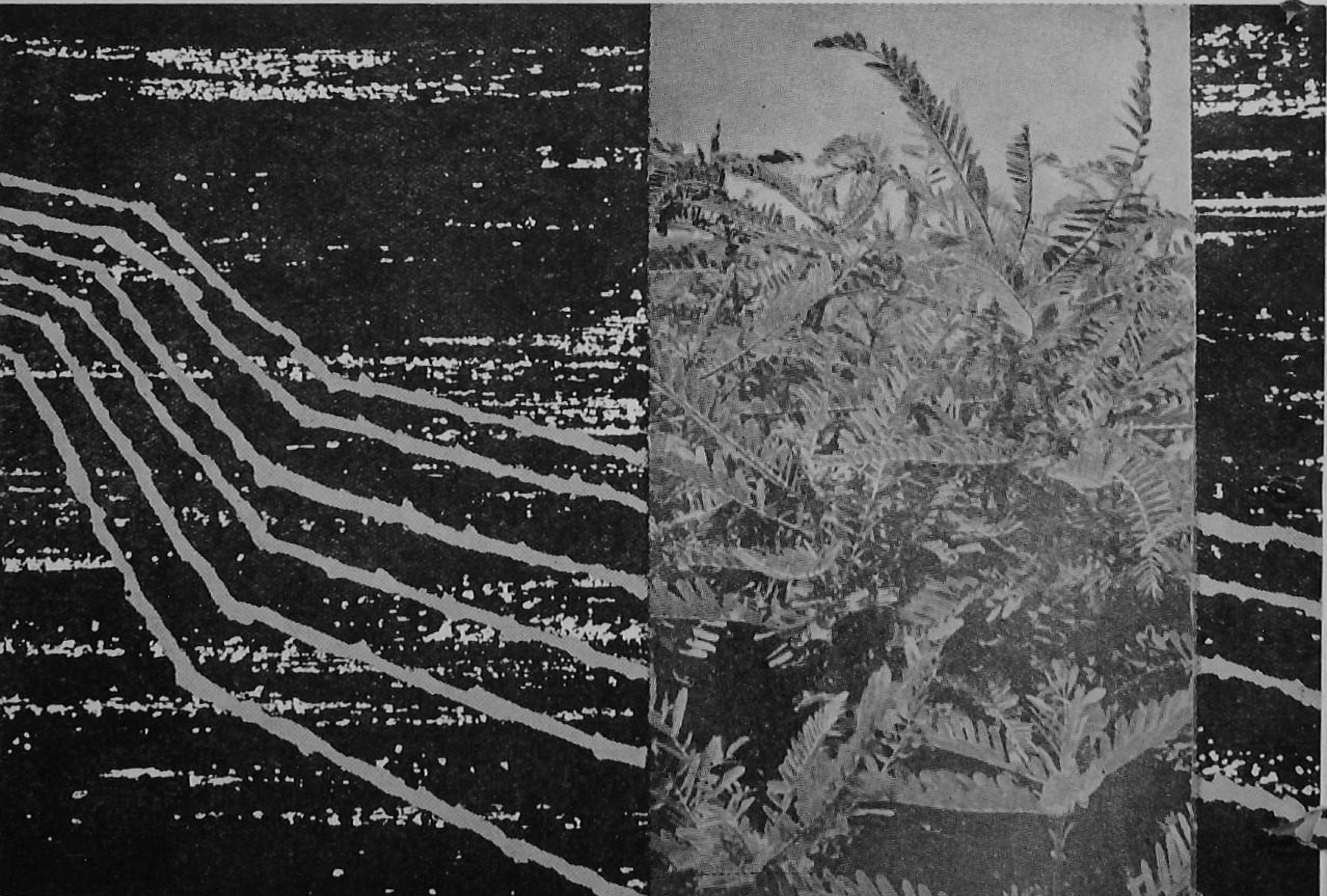
By. J. S. KANWAR

THE way to reclaim a *kallar* or saline or alkaline soil will differ from place to place. Here is the method recommended by the Punjab Department of Agriculture. This will be of use to many farmers, especially in the North.

Getting your soil analysed should be the very first thing to do before taking up other steps.

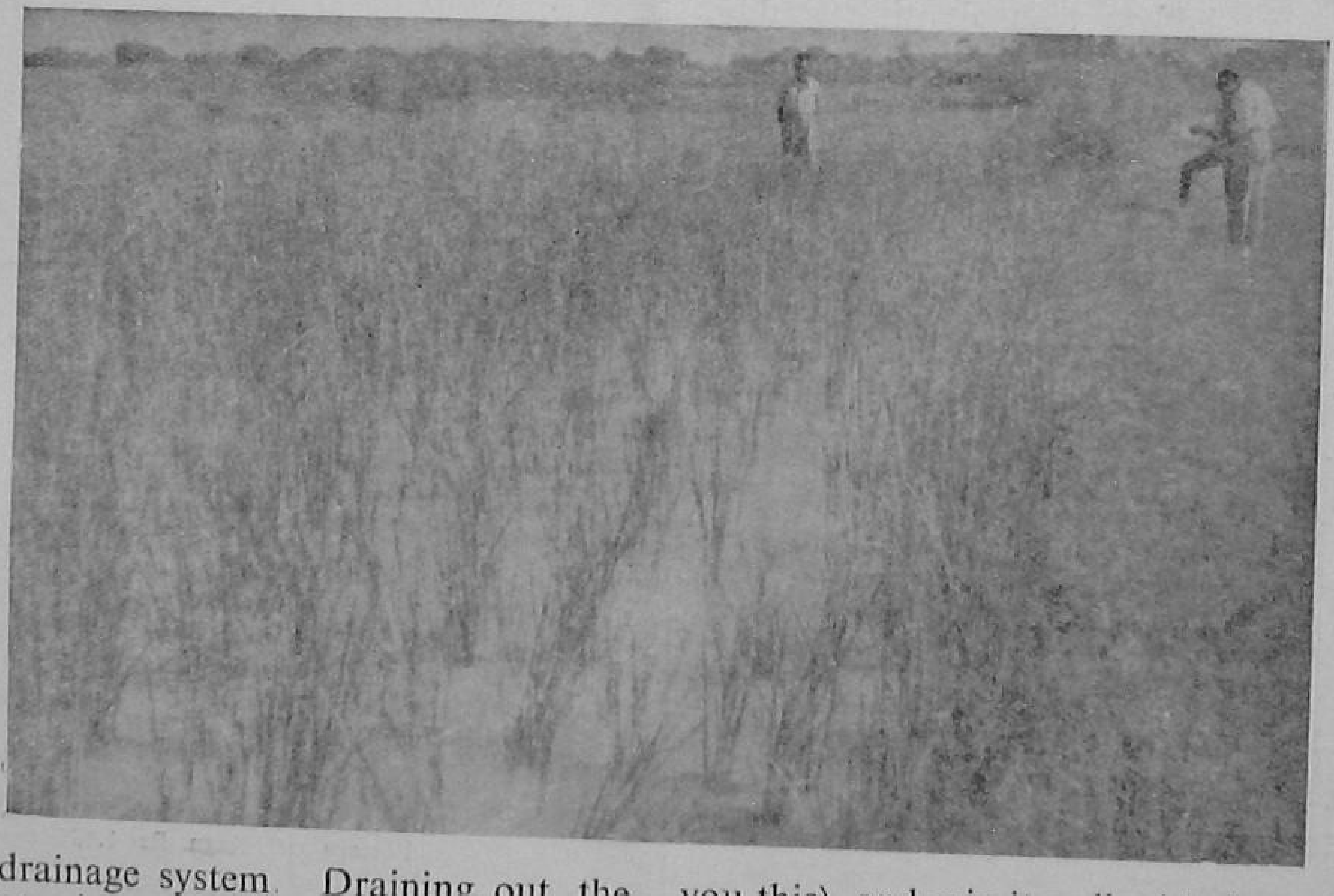
Where the water-table is high, i.e., within five feet, drain out the excess of water and lower the water-table by taking up a

RECLAIMING *KALLAR* SOILS



A plot of land badly affected with salinity and alkalinity

Gypsum is being used to reclaim alkaline soils



suitable drainage system. Draining out the excess water is very important.

Next put up strong two-foot high bunds around each field.

Apply four tons of gypsum if the *p*H of the soil is above 9.0 (the soil analysis will tell you this), and mix it well with the soil. The quantity of gypsum to apply will vary according to the soil. You can use sugar mill wastes in place of gypsum.

Apply a foot of water to the field and let it stand for at least a fortnight. This will help leach down the salt.

Sow *dhaincha* in the second week of March when the field is under water. Before sowing, apply two to three maunds of ammonium sulphate and an equal dose of superphosphate to the field. Broadcast 24 to 30 seers of *dhaincha* seed per acre. Soaking the seed in water for about four to six hours before sowing will help in a higher percentage of germination. Give light and frequent irrigations in the early stages of plant growth. This will protect the germinating plants from any salt injury. However, see to it that the plants do not remain submerged in water.

Plough in the *dhaincha* plants when they are about eight weeks old.

Two to three weeks after green manuring with *dhaincha*, plant out the paddy seedlings. Just before transplanting paddy, apply 3 maunds of ammonium sulphate, 2 maunds of superphosphate and 20 seers of muriate of potash. This is important. Harvest paddy in time, after which sow *senji* barley, berseem or sugarbeet.

If you do not have enough water for raising paddy, sow *dhaincha* with the rains and plough in in early September, and grow barley instead.

Repeat this procedure for two or three years till you can get normal yields from your fields. After the first round of operations, you can leave out gypsum, but you should not forget to manure *dhaincha* with superphosphate, and paddy with ammonium sulphate.

Contact your local Agricultural Chemist for help if you need any. And, remember that good soil management pays, more so in reclaiming and putting to use the *kallar* soils.

"GUNTI"
SOIL TESTING KIT

Containing 22 items in an attractive Sheet Metal box consisting of Re-agents for determining:
SOIL RE-ACTION (pH) and estimation of available,:
PHOSPHATES
NITRATES and
POTASSIUM in soils:
Also Available I.A.R.I. Type SOIL TESTING KIT

GUNTI & CO., PRIVATE LIMITED
128 Mahatma Gandhi Road North,
SECUNDERABAD-A. P.

Just Published:

KURUKSHETRA

A SYMPOSIUM ON COMMUNITY DEVELOPMENT IN INDIA

(SECOND REVISED EDITION)

PRICE Rs. 4.50

(Postage incl. Regn. Rs. 1.05)

Order your copy from your bookseller or from :

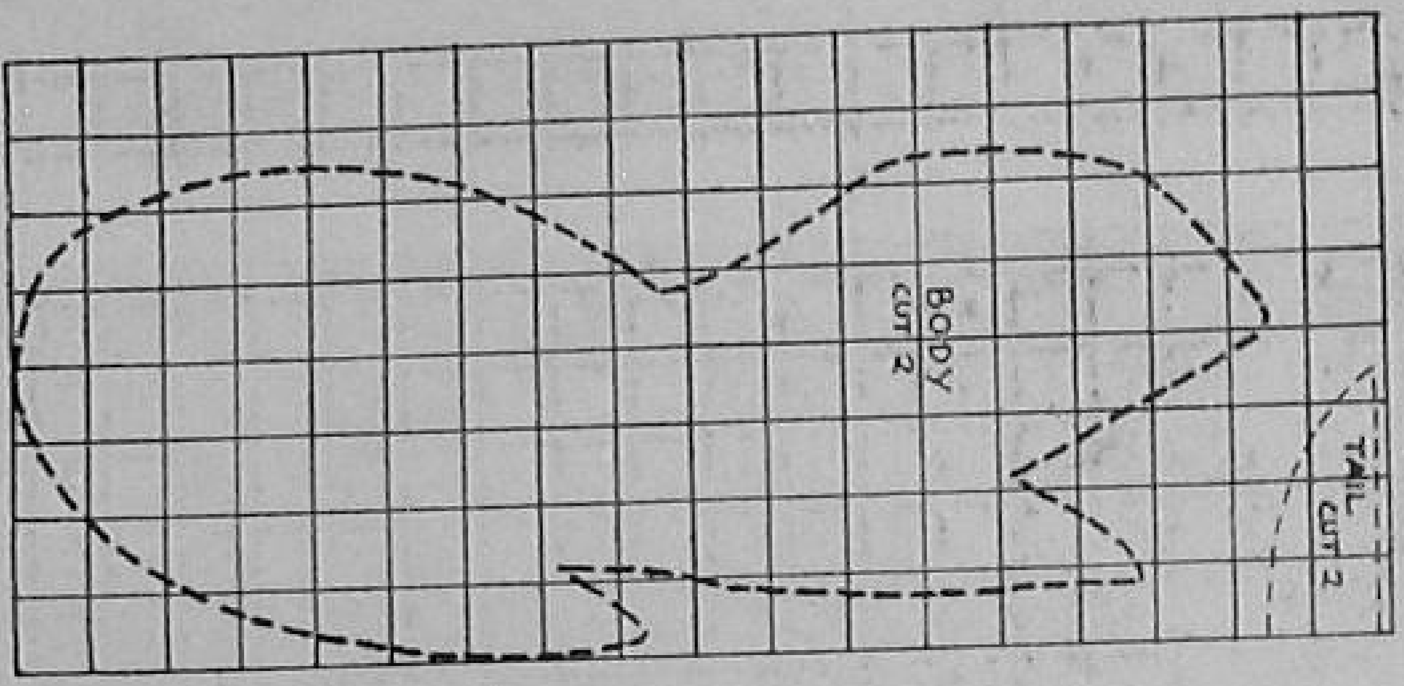
THE PUBLICATIONS DIVISION

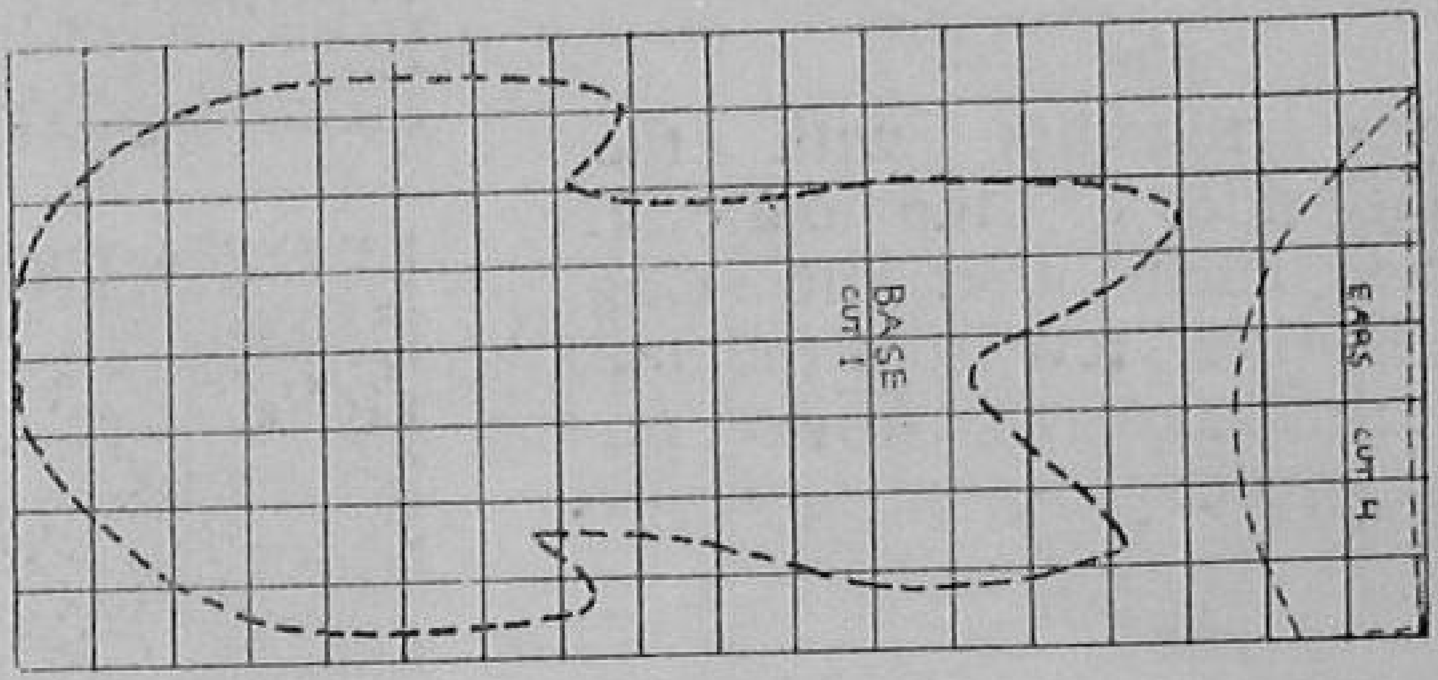
Old Secretariat, DELHI-6

MAKING BUNNY RABBIT IS FUN

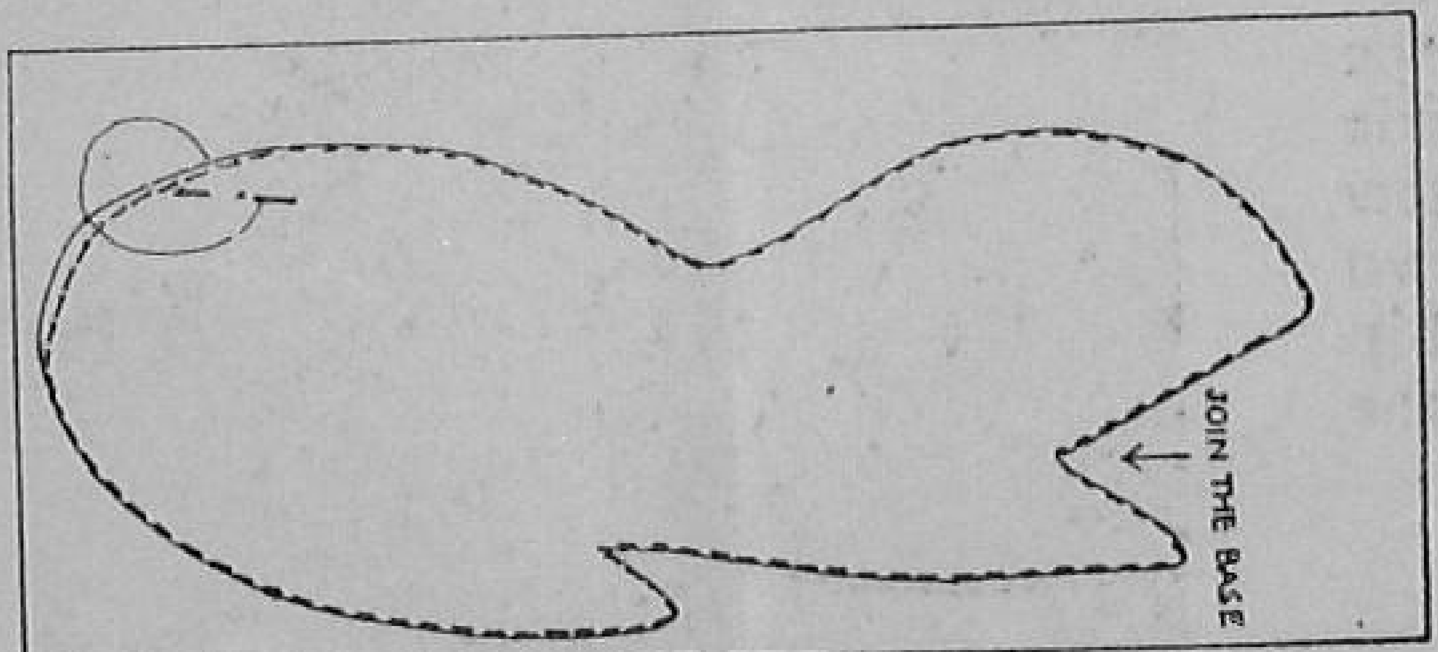
By KAMLESH PURI

A bunyn rabbit will be a good toy for a child





to play with. And it is so easy to make a nice one yourself.



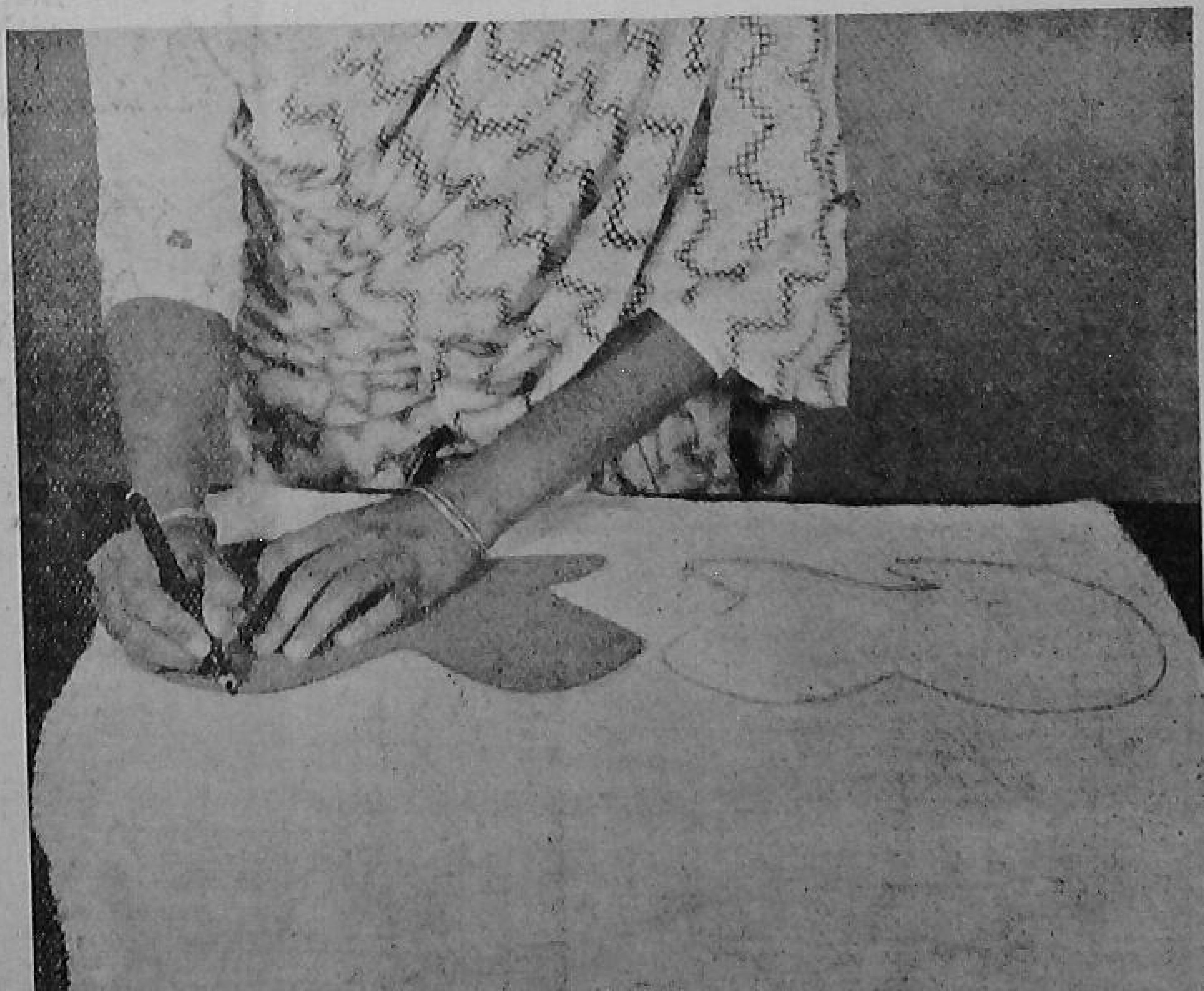
Materials you need: White, grey or slate-coloured felt or flannel 9 inches by 36 inches, sewing thread (white or of the colour matching the felt), black and red stranded cotton, two beads for eyes and cotton wool for stuffing.

HOW TO MAKE THE TOY

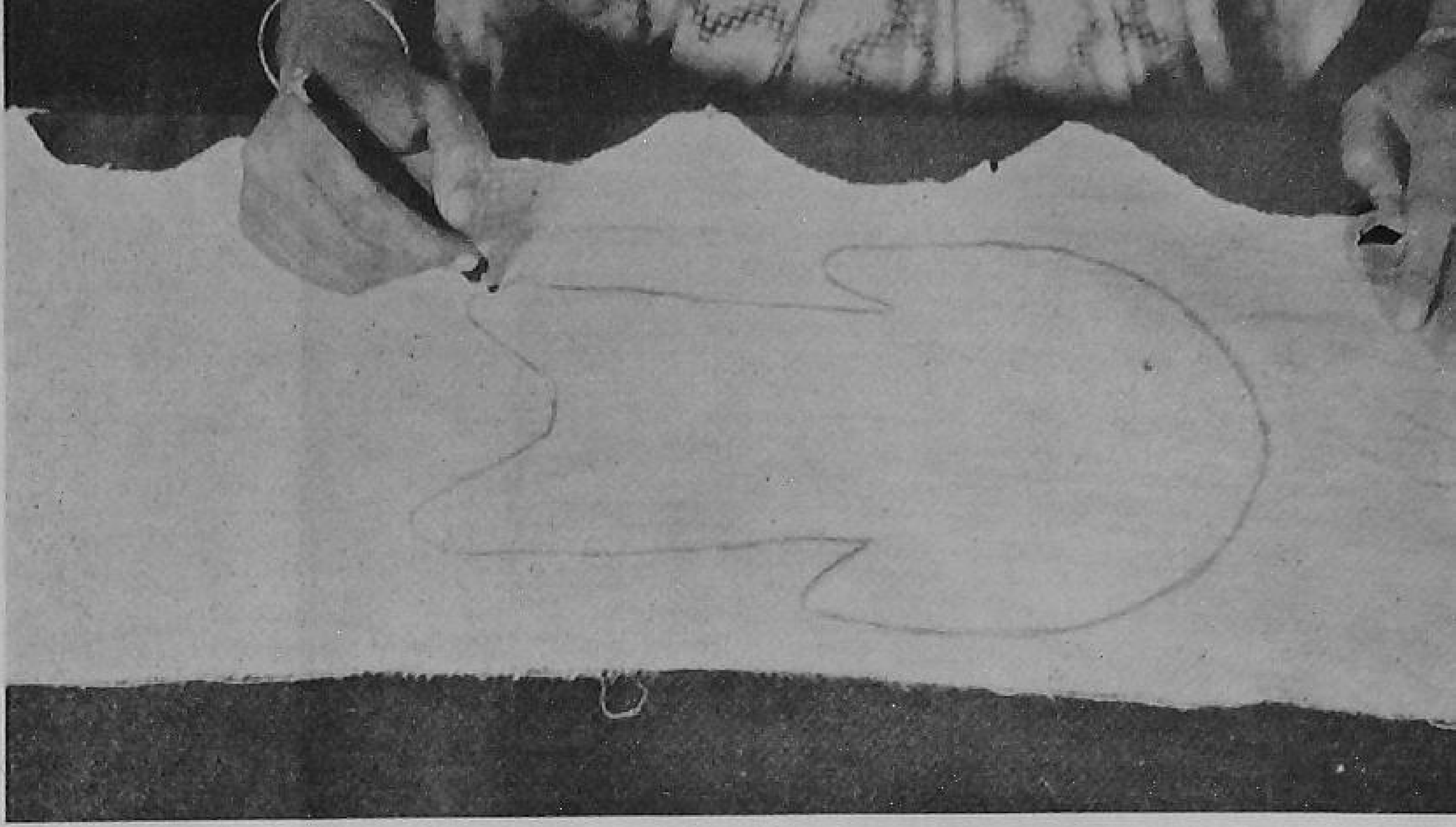
Make out the pattern in full size on the flannel or felt. Cut the base 10 inches by 6 inches. Then cut the two body pieces of 10 inches by 8 inches each, two ears and the tail on double material.

(If the material has wrong and right sides, reverse the pattern for one body piece and two ear pieces and one tail piece.)

Make the body first; pin the body

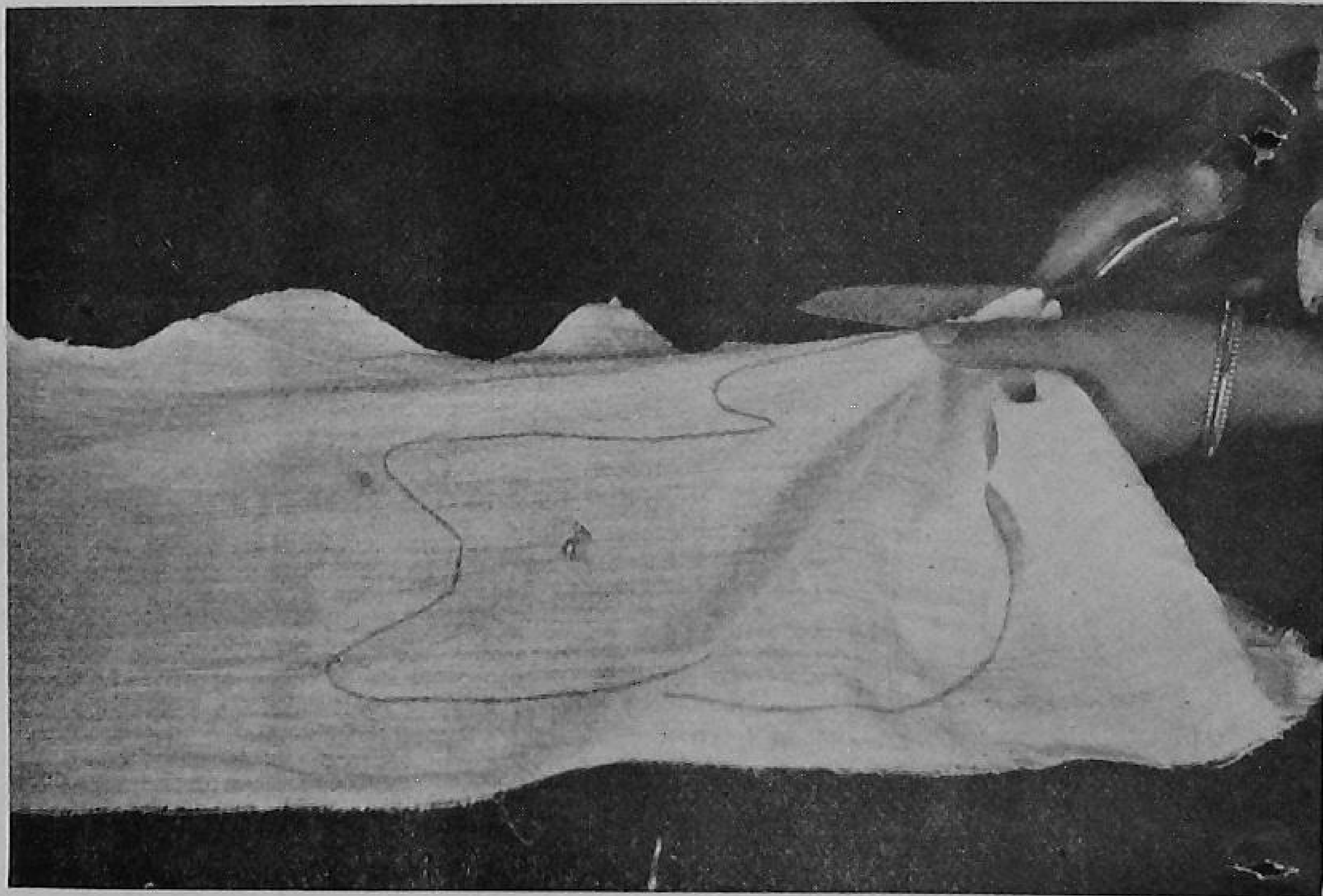


Tracing out the pattern



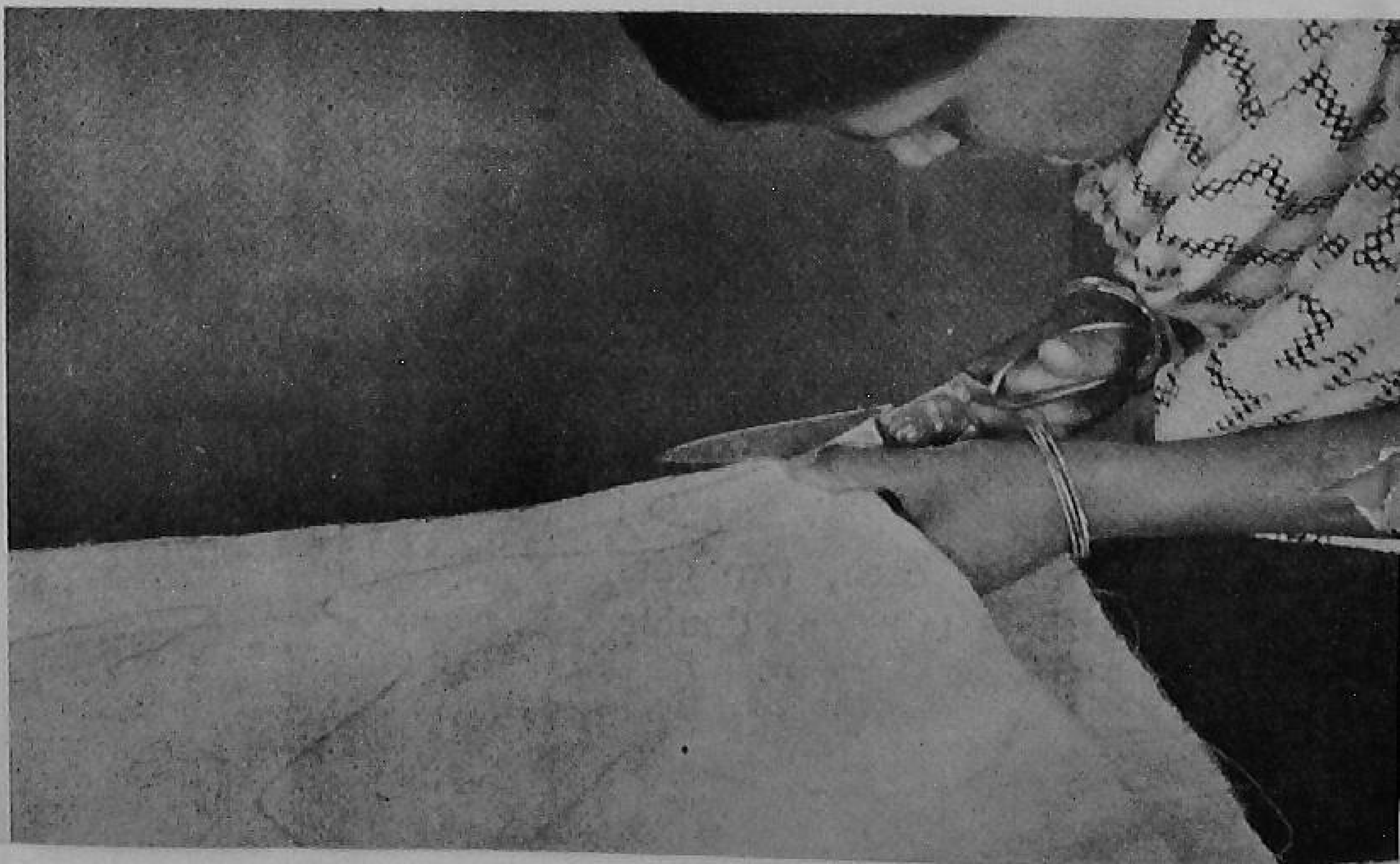
Tracing out the base and cutting it out

pieces together with the right sides of the material facing, each other and using back-stitch sew from the tail to the neck as shown on previous page.



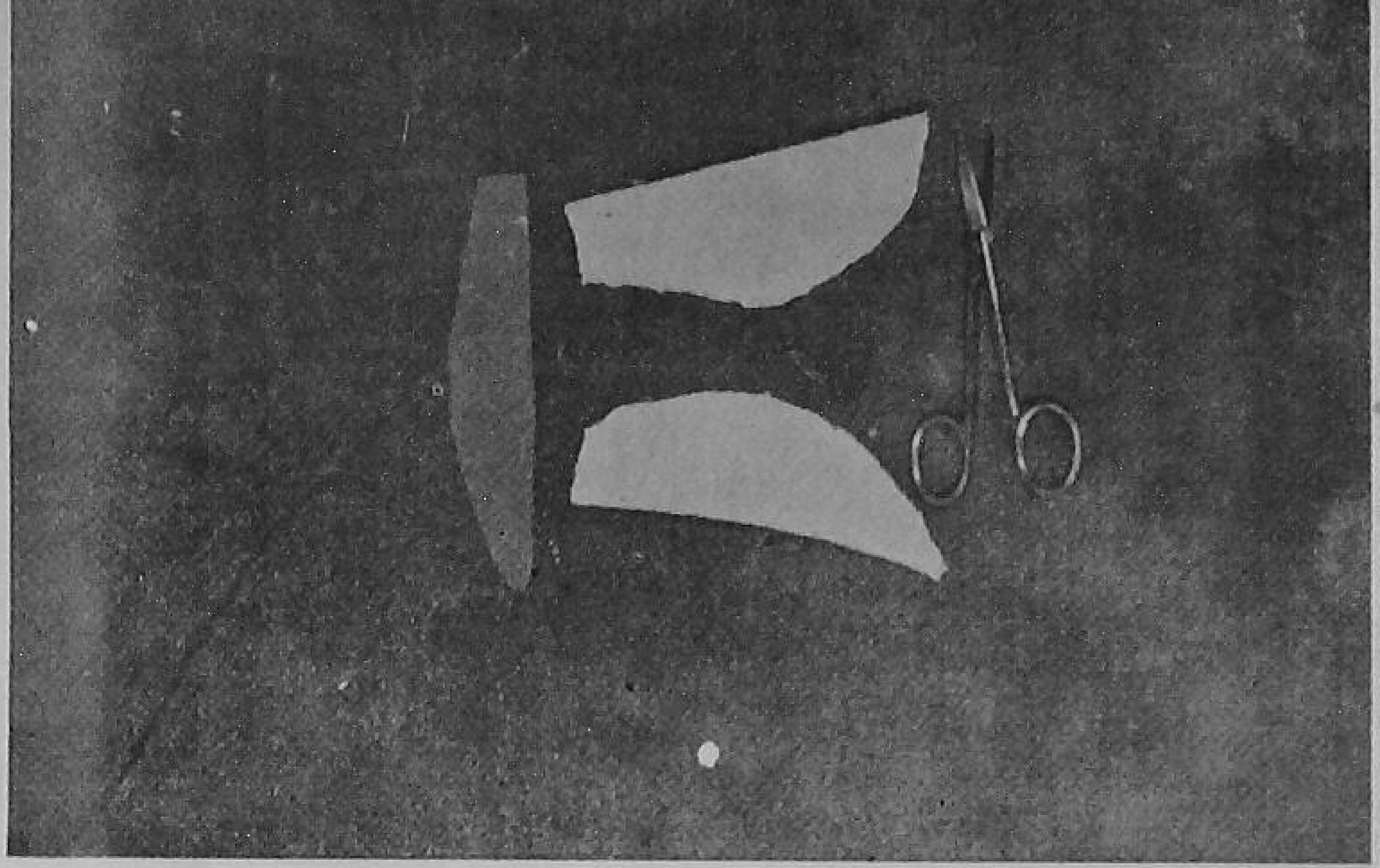
After firmly joining the two body pieces, fit in the base in place with right side of the material inside ; sew firmly the base to the two body pieces, leaving the hip portion open for turning the cover.

Turn the cover so that the seams are inside the body, and stuff with cotton. Insert



Cutting out the two body pieces

Cut out the ears of the bunny rabbit

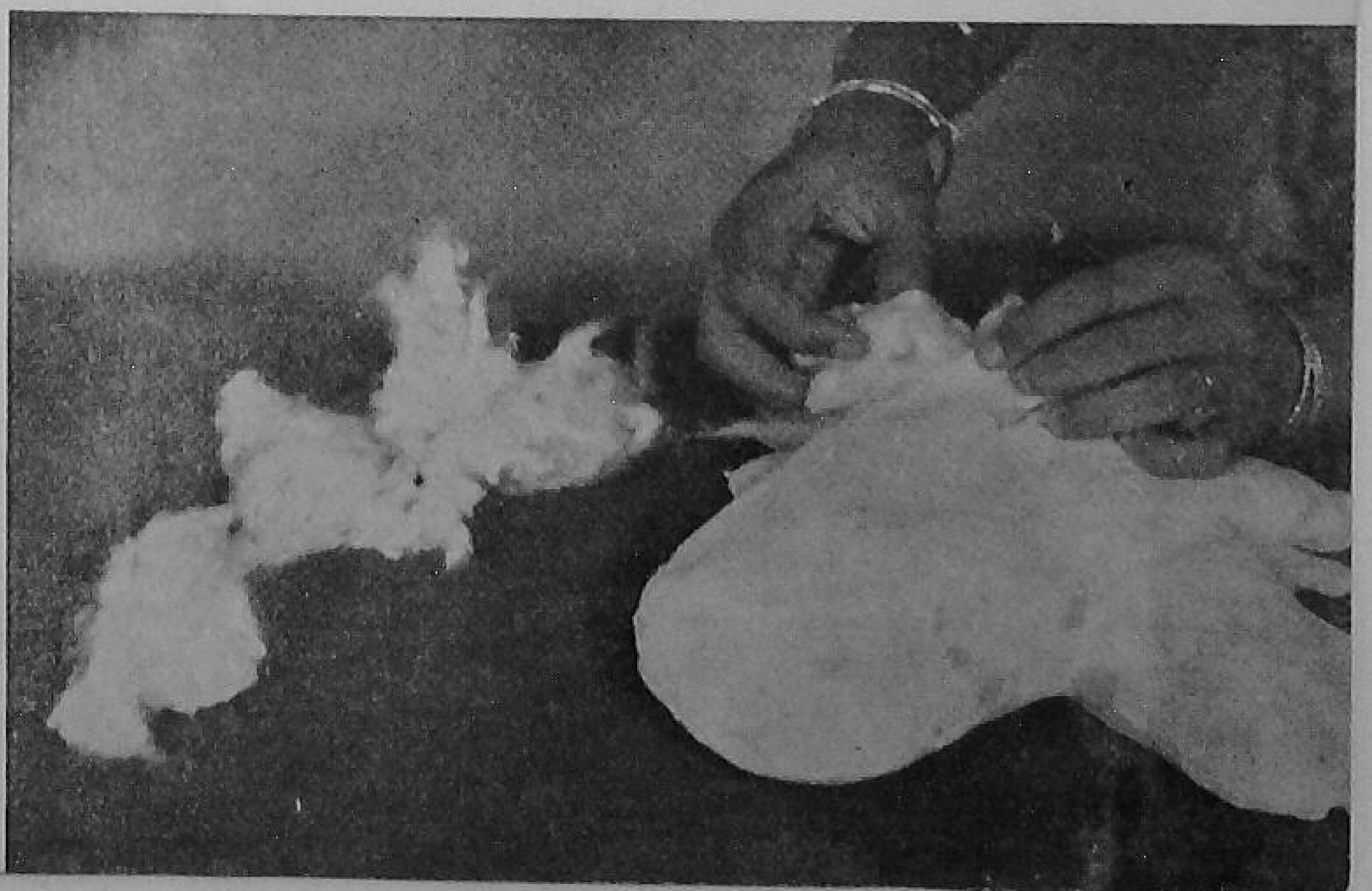


only small pieces of material at a time, and position them with the help of a small knitting needle. The rabbit body is very simple to fill. See the stuffing is worked into proper shape. After the

Stitching the rabbit starting from the tail to the neck

stuffing is complete, close the opening at the hip by sewing the edges of the material together.

Make the tail next ; place the two tail pieces together with the right side of the material inside ; sew them together. Turn the tail cover, fill it with stuffing and stitch it very firmly to the body.



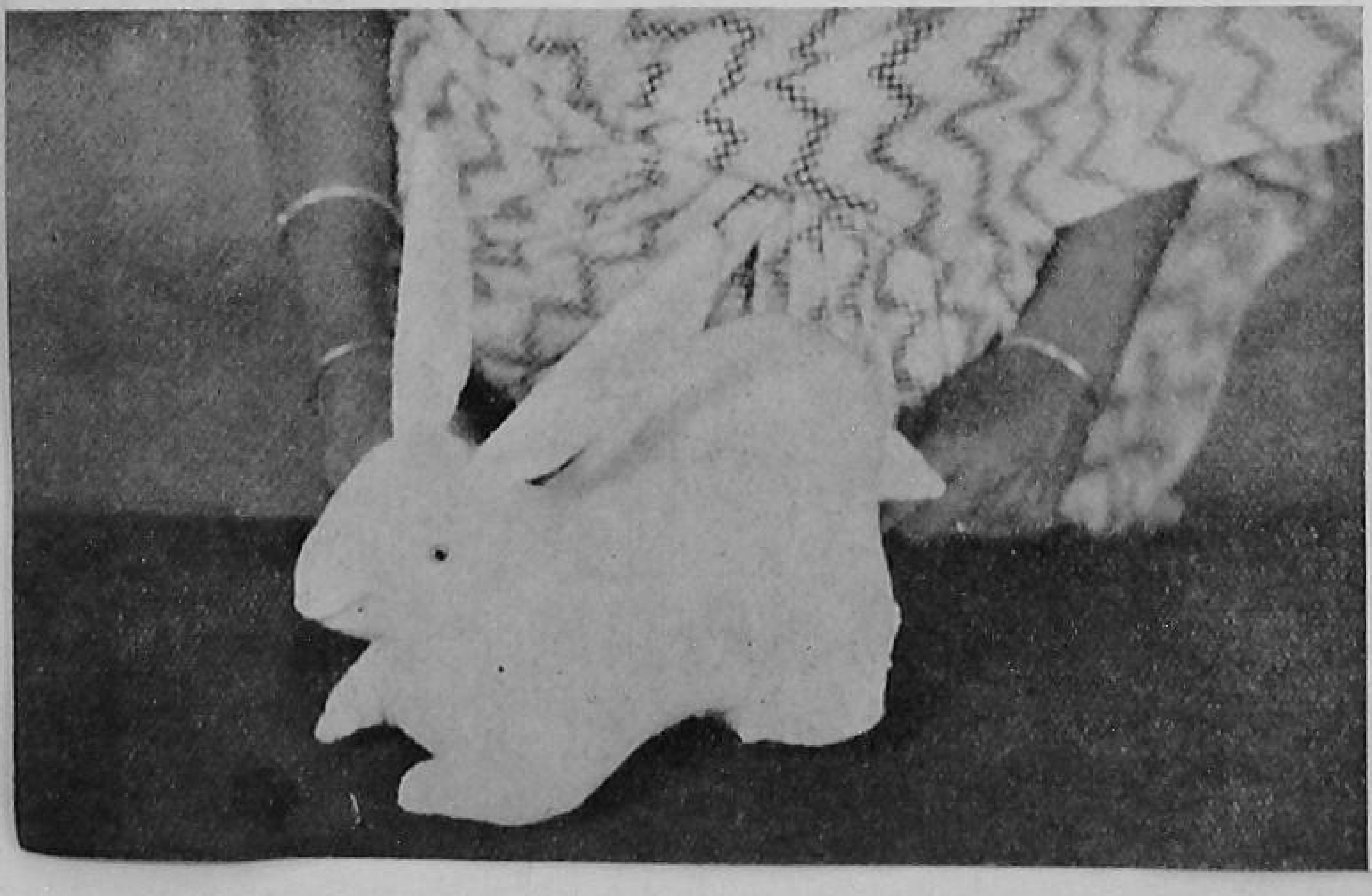
Stuffing the rabbit

Stuffing the ears and fixing them on the body

Then comes the ears. Turn the cut pieces right side out and fill them with cotton. Sew them up to the body very firmly with the coloured stranded cotton.

Mark the position of eyes with a piece of chalk and then fix the beads in place very firmly, so that the child may not easily remove them. First embroider round the eye with coloured stranded cotton, and then the mouth with black stranded cotton.

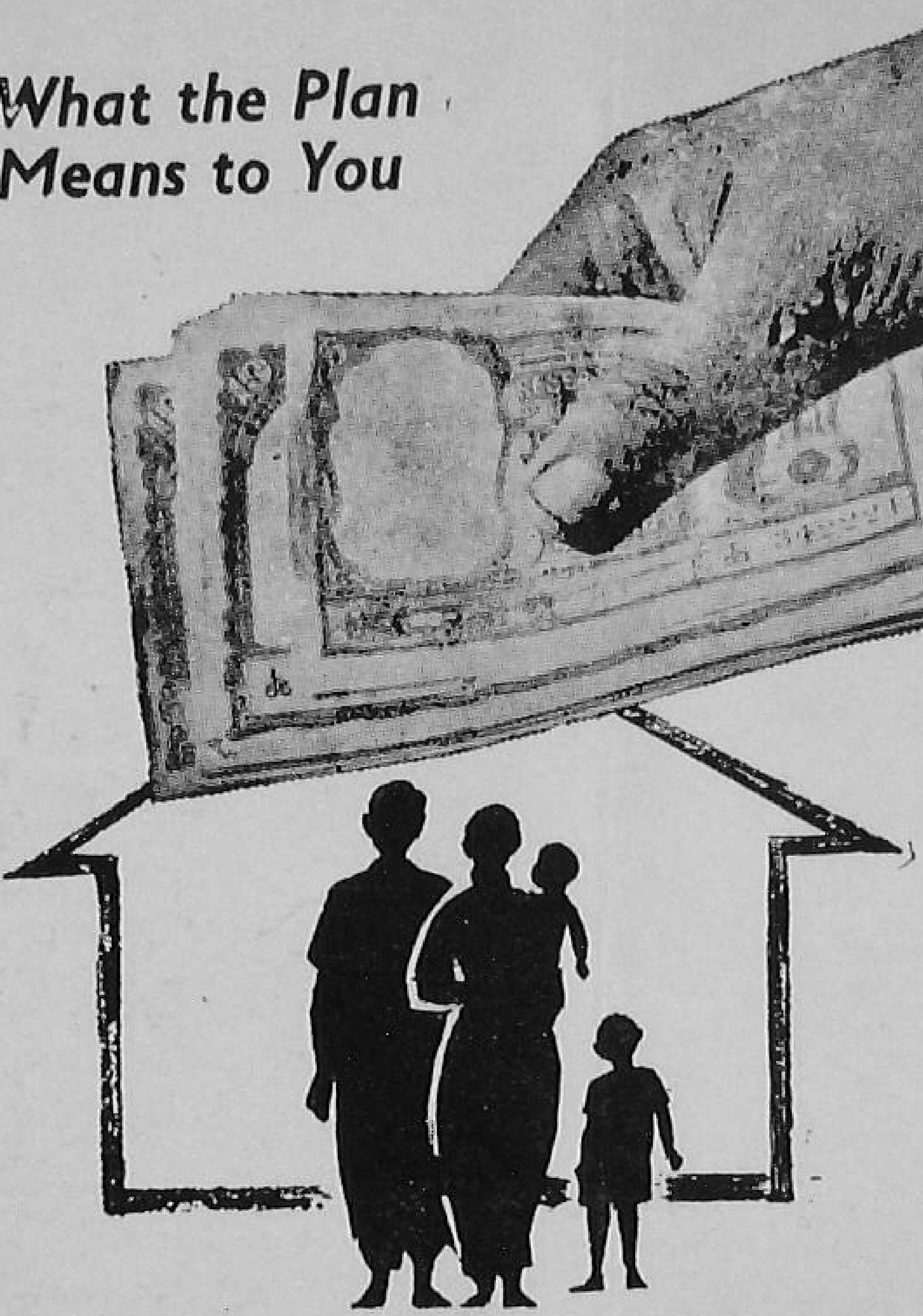
The bunny rabbit is ready now for your child to play with.



The author gratefully acknowledges the help given by the Chief Instructress, Gram Sevika Training Centre, Bhawanisagar, Madras, in preparing this article.

Regd. No. D-1180

What the Plan
Means to You



Rs.275 MORE
PER FAMILY

Average annual income per family, by the end of the Third Plan will go up to Rs. 1,925 as against Rs. 1,650 in 1960-61.

Help make the Plan a success to increase your income and ensure

THIRD FIVE YEAR PLAN ▶ **A Good Life for Everyone**

DA-61/614

Published by the Farm Information Unit, Directorate of Extension, Ministry of Food and Agriculture, Krishi Bhavan, New Delhi, and printed at the Asia Press, Netaji Subhash Marg, Delhi-6.